CIVIL FUNCTIONS, DEPARTMENT OF THE ARMY APPROPRIATIONS, 1953

THURSDAY, MAY 22, 1952

UNITED STATES SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, D. C.

The subcommittee met at 11 a. m., pursuant to recess, in room F–39, the Capitol, Hon. Kenneth McKellar (chairman) presiding.

Present: Senators McKellar, Young, and Cordon.

Also present: Senator Kilgore.

Chairman MCKELLAR. The committee will come to order.

Congressman Davis, you may proceed.

CORPS OF ENGINEERS

RIVERS AND HARBORS PROGRAM

STATEMENT OF HON. JAMES C. DAVIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

BUFORD DAM, GA.

Representative DAVIS. Mr. Chairman, I am Congressman James C. Davis, representing the Fifth Congressional District of Georgia. I appear here this morning on behalf of Buford Dam.

The Buford Dam, now under construction, is located on the Chattahoochee River approximately 35 miles northwest of Atlanta, Ga. It is the northernmost dam of the project known as the Appalachicola, Chattahoochee, and Flint River project.

Chairman MCKELLAR. I am familiar with that area. This will be off the record.

(There was a statement off the record.)

Representative DAVIS. We are very appreciative of your interest in our State. You have manifested it on many occasions, and I appreciate it and our people appreciate it.

JIM WOODRUFF DAM, FLA.

The project consists of four dams, the southernmost of which is the Jim Woodruff Dam at Chattahoochee, Fla., right on the boundary between Georgia and Florida. That was the first dam of the project on which construction was begun. Construction was begun there on the Jim Woodruff Dam in 1947, and that dam is well along toward completion now.

Chairman MCKELLAR. Is that a multiple-purpose dam?

Representative DAVIS. Yes, sir; it is.

The Buford Dam for which I am appearing this morning is the second dam of the system upon which construction was begun. The budget for 1953 carried $3 million for the Buford Dam, and the House has included $3 million in the Rivers and Harbors Appropriation bill for the Buford Dam.

AMOUNT REQUESTED

The Army engineers requested approximately $8,500,000 for this dam, $3 million of which was within the ceiling and $5,523,000 of which was over the ceiling.

It was stated in the testimony before the House subcommittee that the $8,500,000 would put power on the line 1 year earlier. Of course, we will be glad to have the $8,500,000 placed in the bill this year. This power is greatly needed in our area. It would be most desirable to have the power made available a year earlier, if that could be done. Therefore, I respectfully ask the committee to take that into consideration in passing upon this item; and, if it is possible to do so, I would urge the committee to increase the amount for the Buford Dam from the $3 million in the bill as it comes from the House to $8,500,000 as requested by the Army engineers.

BUFORD DAM

The Buford Dam is the key dam of this entire project. That will appear from the testimony in the previous years regarding the Buford Dam and the other dams of the Chattahoochee, Flint, and Appalachicola Rivers project.

The Buford Dam, being the northernmost dam of the series, is located in the rainfall area. We have wet spells, wet seasons during the winter and spring and we have dry spells or dry seasons during the summer and during the fall. The reservoir of the Buford Dam will catch and hold rainfall during the wet seasons. This water can be released then during the dry seasons of the summer and fall. It will serve the threefold purpose of preventing disastrous floods during the rainy season, firming up power all the way down the river, not only the power to be generated at the Jim Woodruff Dam and the upper Columbia Dam, which are two dams in this Federal project, but it will also serve to firm up the power generated by some private power facilities located on the Chattahoochee River below the Buford Dam.

NAVIGATION CHANNEL

In addition to that, it will serve to maintain a 9-foot navigation channel from Columbus, Ga., to the Gulf of Mexico. Thus the Buford Dam for these three reasons is the key dam of the entire project. Without the Buford Dam, the 9-foot navigation channel could not be maintained on a year-round basis from Columbus, Ga., to the Gulf of Mexico; the disastrous floods up and down the river could not be prevented; and the power-generating facilities of the dams below the Buford Dam could not be operated at anything like capacity production during the seasons when the flow of the river reaches its low ebb in the summer and fall seasons.

RESERVOIR CAPACITY

The Buford Dam is located approximately 348 miles north of the Gulf of Mexico. As I remember the figures, the reservoir has a storage capacity of 2,282,000 acre-feet, of which I believe 582,000 acre-feet have been set aside for flood control.

I would like to point out to you, Mr. Chairman, and to the committee that Fort Benning, Ga., which is one of the largest military establishments in this country, is located just a short distance from Columbus, Ga., and when the Buford Dam is completed and the 9-foot navigation channel from Columbus, Ga., to the Gulf of Mexico is placed in service it will afford navigation for shipments of freight to Fort Benning, which is situated on the banks of the Chattahoochee River.

POWER GENERATION

From the power standpoint the Buford Dam when completed will generate 86,000 kilowatts of power. It is what is known as a multiple-purpose dam, and in addition to its flood control, power generation, and navigation features, it will also afford recreational facilities for the entire area.

In addition to these features, it has also been testified by representatives of the Army engineers that there will be some pollution abatement as a result of the construction of the Buford Dam.

Now, work on the Buford Dam has reached the stage of heavy construction. It has reached the point where I believe it is economy to proceed as rapidly as possible to complete the dam.

Chairman McKellar. Let me ask you a question at that point.

Representative Davis. Yes, sir.

Chairman McKellar. Did the House cut down the appropriation for this project, or did it stop it entirely?

1953 BUDGET ESTIMATE

Representative Davis. No, sir. The House put in $3 million this year.

Chairman McKellar. They cut the estimate?

Representative Davis. The Army engineers requested of the Budget that they put in $8,500,000; $3 million within the ceiling and $5,500,000 outside the ceiling.

Chairman McKellar. And the Budget recommended the $3 million only?

Representative Davis. Yes, sir, they did, and that is what the House put in.

Chairman McKellar. How much more will it take to finish the dam?

Representative Davis. I am not prepared to give you that figure.

Chairman McKellar. General Chorpening, will you get the figures and put them in the record?

General Chorpening. I can answer that question now, sir.

Chairman McKellar. All right.

COMPLETION COST OF PROJECT

General CHORPENING. If we receive the amount of $3 million in the fiscal year 1953, it would require an additional $34,852,000 to complete the dam after that estimate.

Chairman MCKELLAR. The entire project will cost how much?

General CHORPENING. The entire project is $41,052,000.

Chairman MCKELLAR. All right, will you proceed, sir.

Representative DAVIS. Thank you.

Construction has reached the point where I believe it is economy to proceed as rapidly as possible to complete the dam and to begin to realize the benefits to be derived from it, and to begin to collect the revenue which will come in from the sale of power which will be generated at the Buford Dam itself and which will be firmed up at the other two dams on the Federal project below the Buford Dam, namely, the upper Columbia Dam and the Jim Woodruff Dam.

In connection with that, I would like to say also that it seems to me that it is economy to proceed as rapidly as possible because of the fact that the overhead of the Army engineers is the same whether they proceed at a slow pace or at a rapid pace on a project of this kind which has reached the heavy construction stage. Frankly, I cannot see the economy of appropriating money in driblets when a project has reached the stage where it could proceed rapidly to completion and begin to realize their benefits, and also begin to collect the revenue to amortize it.

I think this dam has reached the point where it would really be economy to grant the $8,500,000 which the Army engineers requested for it and then to proceed to complete it.

All of the people of our congressional district appreciate the consideration which your committee has given to the Buford Dam each year beginning with the year 1947. The construction of this dam means a great step forward to our section because of the power production, flood control, and navigation features, all of which will vitally affect the industrial and economic progress of our people.

The pollution abatement and recreational features will mean much to the area from the standpoint of health and general welfare. Our entire State will benefit, as will the adjoining States of Alabama and Florida, from the four dams which constitute the Chattahoochee, Flint, Appalachicola system project.

SELF-LIQUIDATING PROJECT

I sincerely feel that the authorization of the four dams on this project and their completion as rapidly and as quickly as possible is evidence of farsighted statesmanship on the part of both Houses of Congress in their program of conserving and utilizing the natural resources of our country which, of course, is a sound investment, particularly in view of the fact that three of the dams in this particular project, including the Buford Dam, are self-liquidating or self-amortizing almost to the full extent.

I thank you very much for giving me the opportunity of appearing before you this morning, and I thank you also for your attention and for your consideration of the Buford Dam item, which I regard as very worthy and meritorious from every standpoint.

Chairman McKellar. Thank you, Congressman.

Have you any questions, Senator Young?

Senator Young. No.

Representative Davis. I deeply appreciate the courtesy of the chairman and the committee.

Chairman McKellar. I have a statement by Butler B. Hare, Chairman of the Clark Hill Authority with respect to the Hartwell project. That statement will appear in the record at this point.

(The statement referred to follows:)

Statement by Butler B. Hare, Chairman, Clark Hill Authority of South Carolina

Mr. Chairman, flood control and navigation on the Savannah River has, to my personal knowledge, been a live issue for more than a quarter of a century. It was my privilege in the meantime to represent two congressional districts covering a period of 16 years and the two districts included every county in South Carolina that touches the Savannah River. Consequently, I have been vitally interested and have watched the development with a great deal of concern.

In 1927 Congress provided the United States Army engineers should make a survey of the Savannah River Basin for flood control and the promotion of navigation. The survey was completed and the report made in 1935, recommending the construction of 11 dams at designated sites on the Savannah River and its tributaries.

No specific recommendations were made as to when the reservoirs should be developed or the order in which the dams should be constructed, further than that the site on the Savannah River near Clark Hill, S. C., should be first developed. And when the justifications for the development of this site were submitted, it was brought out that the dam at Clark Hill and the one near Hartwell, Ga., would increase the efficiency of each other if the construction engineers would have in mind how each would implement the efficiency of the other. That is, the two dams have always been considered as companion dams, and the justifications for one would be sufficient justification for the other. Therefore, Mr. Chairman, since the Clark Hill project was approved and has been under construction for upward of 5 years and is now nearing completion, I confidently feel that the justifications for the Clark Hill project will serve equally well to justify appropriations for the Hartwell Dam, and as the justifications for the former are all before you, I will therefore not trespass upon your time or burden you by repeating them at length.

The report recommended that since the first site to be developed in the program was to be constructed at an estimated cost of more than $20,000,000, a power plant should be added in order that the dam, when completed, would be a liquidating project. That is, the report provided that after the waters were impounded to prevent floods they would be released in an orderly way to promote navigation, and in the release, electric power could be generated to supply the growing needs for power within the river basin and the proceeds arising from the sale of the power be refunded to the Government in order that it may be reimbursed for money expended. This has always appealed to me as a sound, economic national program.

The Army engineers did not act hastily in preparing their report and making their recommendations. Their study and surveys covered a period of 7 years. The Federal Power Commission did not act hastily in making its report on the proposed program. The Rivers and Harbors Committee and the Flood Control Committee of the Congress did not act hastily in preparing and submitting their reports to Congress. The Congress did not act hastily in passing the act authorizing the development of the 11 projects. The time consumed by these several agencies of Government covered the period from 1927 to December 22, 1944, when Congress adopted the report.

It has been urged that the flood-control provision in this development is only incidental to the power project, saying the Army engineers did not emphasize the flood-control feature in their report from the standpoint of cost. It is true the engineers did not find that the value of the dams for flood-control purposes would equal their value for power purposes at present, but it should be remembered that the engineers, in determining damages or losses from floods, take into consideration only such things as farm crops, loss of livestock, build-

ings, persons, etc., for the year previous to the survey, or covering a period of only recent years. Naturally the loss or damage from recent floods would be light for the reason that since the floods became large and numerous many years ago, very little property is left in the flooded areas to be destroyed. The heavy losses in dollars and cents from floods occurred a number of years ago when a number of prosperous villages and trading posts on the Savannah were destroyed, such as Petersburg, Purysburg, Hamburg, Silver Bluff, and a number of smaller towns and villages. Quite a large quantity of export and import trading was carried on through these posts, the early exports being principally cotton, lumber, and clay—the imports being mostly brick and tobacco.

However, after the forests were removed and the floods became larger and more numerous, all of these towns and villages were virtually destroyed and abandoned and today you can hardly find a trace of any of them, except the city of Augusta. The engineers do not include the losses sustained when a town, city or village was destroyed by a flood 50 or 75 years ago, and they do not include any future benefits that might accrue from flood control. That is, they do not attempt to estimate or consider any income that would follow the development of upward of 200,000 acres of fertile lands that would be reclaimed for farming purposes, livestock, industry, and other purposes in case floods on the Savannah are controlled, nor do they take into consideration losses sustained when the floods destroyed towns, villages, and farm homes in this area, all of which would probably be restored under an efficient flood-control program.

In addressing myself more particularly to the proposed dam across the Savannah River near Hartwell, Ga., I shall briefly give some of the pertinent and pressing reasons for favorable consideration of the $4,000,000 recommended by the Budget Bureau. In fact, I want to emphasize that the justification at present will warrant an increase in the suggested appropriations for the reason there have been some vital changes taking place affecting this project and other similar projects within the last year or so. When the engineers recommended this development they did not dream of an atomic energy plant being erected nearby at a cost approximating $2 billion within the next 15 years; they did not dream that within less than 25 years the population in the neighboring area in the States of South Carolina and Georgia would more than double within less than 1 year following the completion of the first project in the program located near Clark Hill, S. C. These engineers did not dream of the unprecedented increased demand for electric energy in this area.

The United States Division of Engineers made an investigation last year of the probable demands for increased electric power within what is known as the southeastern area of the United States and covering also what is known as the South Atlantic Division. This report is rather lengthy, and I am assuming that it is on file with this committee, and for these reasons it shall not be my purpose to go into any great detail to outline the power situation in the southeastern area covering the nine Southern States east of the Mississippi River, including West Virginia. It may be sufficient to state that the engineer's report shows a very definite need for additional power throughout the area studied. I make reference to this definite statement for the reason that it is in conflict with recent reports made by operating power companies that there is sufficient electric power in the southeastern area to meet any and all demands for the present. In fact, it was pointed out in the report that there would be a more pronounced shortage of power not later than 1953, especially if the expected defense loads materialize. This situation is well supported by statement in report from the Federal Power Commission where it is said: "That most of the reservoir projects now authorized in the Savannah, Appalachicola, and the Alabama-Coosa River Basins, as well as those in the Rappahannock, James, and Roanoke River Basins, could be absorbed by expected load demand in the near future."

It is made clear from the engineer's report that to begin some of the hydroelectric power plants already recommended by the engineers could not be carried to such a stage of completion that they would prevent a power shortage in 1953, but it is the definite opinion of the engineers that a number of proposed projects in this area could be constructed in time to obviate or reduce critical shortages of power in the immediate succeeding years, and it is the suggestion of the engineers that the construction of some of these projects should be started at once in order to meet the future load, which is certain to be heavy. In view of what has developed within the past 2 years the requested appropriation is so grossly inadequate and the demand for the construction of the plant is so great, I feel that the chair-

man of this committee would be fully justified in inquiring of the engineers their latest opinion as to the actual need for beginning work at the Hartwell Dam the first part of the coming fiscal year and the necessary amount of money to be carried in the bill now under consideration to begin and prosecute the work for the next fiscal year, and then let the committee be governed by their report. Otherwise, the amount of electric power for the defense program and civilian demands may within the next 2 or 3 years easily develop a tragic shortage, especially if civilian demands increase in this section as much in the next 2 or 3 years as they have in the last corresponding period. For the Research, Planning, and Development Board of South Carolina advises that approximately 100 new industrial plants have been established in the 16 counties in South Carolina touching or near by the Savannah River since 1945 at an initial cost of a little more than $100 million, and these establishments to not include such as the Clark Hill project, the Dukes steam plant at Williamston, the atomic energy fuel plant now under construction in Aiken and Barnwell Counties. Should the anticipated development occur without a corresponding increase in electric power, we can easily visualize and the Army engineers have predicted an inexcusable and drastic shortage of power in this area within the next 4 or 5 years. These industrial plants were established upon the theory there was at the time sufficient electric power in the offing to warrant or justify the action of their promoters, and I trust the committee may see fit to provide sufficient funds to actively begin the construction of the Hartwell Dam at once

In fact, Mr. Chairman, we feel that this committee should in a large measure be governed by the findings and conclusions reached in the report issued January 9, 1952, by the Joint Committee on Defense Production, consisting of the following members of the Senate: Hon. Burnet R. Maybank, chairman; Hon. J. William Fulbright, Hon. A. Willis Robertson, Hon. Homer Capehart, Hon. John W. Bricker, and the following members from the House of Representatives: Hon. Paul Brown, vice chairman; Hon. Wright Patman, Hon. Albert Rains, Hon. Ralph A. Gamble, and Hon. Henry O. Talle. I am satisfied this report is before this committee and I shall not duplicate the justifications for this project and other similar projects, further than to quote part of the third conclusion reached by the committee, where it said:

"Have you ever stepped on the starter of an automobile on a cold morning and been unable to start the motor because of battery failure? You have an investment there of between $2,000 and $3,000 unable to function because of a lack of electric power from a battery representing a cost of about 1 percent of the investment. For your purposes at the moment the automobile is useless and so is the entire investment it represents.

"The same analogy applies to a defense plant lacking the electric power to make it operate. There is evidence to indicate some of those responsible for planning our economic mobilization are apt to fall victim to the human error of not missing the water until the well runs dry.

"Unfortunately, the difficulties of this problem are compounded because, while you can normally replace your automobile battery from an auto-parts supplier's stock, it takes from 3 to 5 years to build electric power systems for some defense plants, even without considering further delays caused by lack of materials under an allocation economy."

We quote further from the report under recommendation (3) as follows:

"The exact amount of power required is a matter subject to honest differences of opinion. The determination of this amount should be recognized as a problem separate from the policy decision regarding what amount of scarce materials should be made available to meet the target. It boils down to the question 'How much power do we need?' as distinguished from the question 'How much can we get in an allocated economy?' Your committee appreciates that the latter question is a difficult one to answer, especially when the answer must be obtained by balancing requirements for electric power against requirements for other elements needed in a mobilization economy. Your committee agrees that the needs of the Armed Forces deserve and must get priority. Administrative officials and policy makers, however, cannot afford to underestimate the need for adequate electric power to produce the items needed by the military forces. A nation twice unprepared for its own defense within the lifetime of those now living should recognize the folly of allowing itself to lapse into that situation again. It must be realized that production takes time and advance planning."

NAVIGATION, UPPER MONONGAHELA RIVER, W. VA.

STATEMENT OF HON. HARLEY M. KILGORE, A UNITED STATES SENATOR FROM THE STATE OF WEST VIRGINIA

Chairman MCKELLAR. All right, Senator Kilgore, the floor is yours.

Senator KILGORE. Mr. Chairman, we have two items for consideration, and I would like to get the supporting evidence in the record from responsible witnesses who are present. One of the projects relates to the Hildebrand lock and dam on the upper Monongahela River of which $35,000 had already been appropriated for plans and an additional $35,000 was budgeted for in 1953 but was denied by the House as was all other planning money and the other item involves $425,000 needed to start construction of the Wheeling flood-wall project. Both, I think, are highly important defense projects. The planning is practically completed on the Wheeling flood-wall project, and we want to be able to start construction work because the situation hampers industry tremendously.

With your permission, inasmuch as one of our witnesses has to leave for New York, I would like to put Mr. Millsop, the president of Weirton Steel, on first, out of order probably, and get his testimony in so that he may leave.

Chairman MCKELLAR. All right, sir. You may sit down or stand, as you wish.

STATEMENT OF THOMAS E. MILLSOP, VICE PRESIDENT, NATIONAL STEEL CORP., AND PRESIDENT, WEIRTON STEEL CO., AND NATIONAL MINES CORP.

REPLACEMENT OF LOCKS AND DAMS

Mr. MILLSOP. Mr. Chairman, I have a written statement here which I would like to file with the committee.

Chairman MCKELLAR. Without objection, it will be inserted in the record.

Mr. MILLSOP. Then I have some photographs of the location of the dams which are under discussion and which I would briefly like to show you and describe, if I may.

Chairman MCKELLAR. All right, sir.

Mr. MILLSOP. What we are talking about is the replacement of old dams with new dams. That is fully covered in my statement and will also be covered by subsequent testimony.

These are photographs of one old dam that has been removed and the new dam that has replaced it.

Chairman MCKELLAR. There is quite a difference there, is there not?

Mr. MILLSOP. That is correct, sir.

Senator YOUNG. Mr. Chairman, I believe that the witness should state what project this is and whether it is authorized.

Mr. MILLSOP. Senator Kilgore, I think, will cover that.

Senator YOUNG. What project is this?

Senator KILGORE. This is the upper Monongahela River project. The committee will remember that at the last budget hearings we put

in testimony on the upper Monongahela which showed conclusively that the steel industry of the Pittsburgh area, which produces one-third of the steel in the United States, and which covers Pittsburgh, Steubenville, Weirton, and Wheeling, all of that area, has been dependent for years on coal from what we call the lower Monongahela River. That was locked in a 9-foot channel for a number of years. The upper Monongahela had been locked for a 5-foot channel. It is impossible to get the coal barges into the upper Monongahela in an efficient manner.

The metallurgical coal has been mined in the lower Monongahela Valley. It is necessary to get up into the upper reaches of the Monongahela. When we do that, we will get a 100 years' supply of coal for metallurgical purposes on which the steel plants are dependent.

REASON FOR WATER TRANSPORTATION

Now, you might say: Why can we not ship the coal by rail? We have in the Appalachian area what we call sloping rocks, rocks which are not horizontal. The name "Monongahela" is an Indian name meaning the river of sliding banks. It is very hard to build a heavy traffic railroad along that stream, so that we cannot provide railroad facilities to bring out this coal from the upper Monongahela Valley. Incidentally, if we could it would raise the cost of the coal to a very high point, because the maintenance of the railroad would be high.

There are miles and miles of roads along the Monongahela where they have had to go in and drill a 6-inch hole every 4 feet and sink a pipe down into the rock and just pin the road to the bank, and still it will not handle the heaviest type of traffic. When we have long periods of wet weather, we have the slides from the mountainsides.

That is the reason for this locking project which is so highly necessary in order to get the metallurgical coal out. Mr. Millsop is president of Weirton Steel Co. They will have to get their coal out of the upper Monongahela, just as will United States Steel Co. and various other steel companies operating in the Pittsburgh area, in the Steubenville area, and in the Wheeling area. The coal has to be brought out by barge.

At the present time they have to load the barge, take it halfway down the river, take two of the barges off, and then reload the barge, which means a double handling charge and which makes expensive coal.

The existing locks, to my personal knowledge, were built more than 60 years ago for just small traffic. Now the traffic is so heavy in the lower valley that we have had to enlarge the locks.

As the committee will remember, 2 years ago we put an appropriation through to increase the size of the locks at Pittsburgh to take care of the Ohio traffic, and the purpose of this project is to get an adequate channel in the upper Monongahela so that we can move the vast body of low-priced and good metallurgical coal to those steel mills.

Mr. Millsop is interested because of his mill.

HILDEBRAND LOCK AND DAM

Senator CORDON. Was this item in the Corps of Engineers list or is it an unbudgeted item?

Senator KILGORE. For 1953 there was budgeted $35,000 for planning. As you will remember, Senator Cordon, last year Congress provided $35,000 to initiate the plans on Hildebrand Dam. We are going to have to build that dam and also put headgates on the dam below Morgantown to get into this coal field.

Chairman MCKELLAR. You do not have a budget estimate?

Senator KILGORE. We have the budget estimate for planning. I wanted to get this testimony into the record, and then see about getting the budget estimate for construction.

Senator CORDON. Do you happen to have a map of the area?

Senator KILGORE. I can get the map for you. There was one filed last year. The State geologist, who lives in that valley, is here with the necessary map which he will show you in just a few moments.

Senator CORDON. What my eyes see, my brain remembers.

STATEMENT OF DR. PAUL PRICE, STATE GEOLOGIST FOR WEST VIRGINIA

PLANNING FUNDS, HILDEBRAND LOCK AND DAM

Mr. PRICE. Senator, I think there are other maps perhaps showing the locks and the like. This is a topographical and geological map of the entire area showing the resources.

Senator KILGORE. Dr. Price, what is the total estimated coal tonnage that will be taken care of by this project?

Mr. PRICE. Within a radius of 10 miles in this area there are 3 billion tons of coal in seams of a thickness of 36 inches or greater.

Senator KILGORE. That is what we call the minimum mining thickness.

Now, at the present rate of consumption of that coal, how long do you think we could take care of the steel industry?

Mr. PRICE. I give that figure in my statement as a conservative 100 years.

Chairman MCKELLAR. All right, sir, will you proceed.

Mr. MILLSOP. I think that what I wanted to say has already been said by Senator Kilgore and by the doctor here. Unless there are some questions you gentlemen may wish to ask me, that is about all I have to say.

Senator KILGORE. May I say, Mr. Chairman and Senator Young and Senator Cordon, that Mr. Millsop has filed a written statement, a prepared statement in order to cut down the length of his testimony and to save the committee's time. He is ready to answer any questions you may wish to ask.

Mr. MILLSOP. I could not present the situation any better than the Senator has presented it; and, outside of the statement that I have filed, why, I think that is the best I can do, that is, to answer any questions you may wish to ask.

Senator CORDON. Number 1 is, What do you want?

BUDGET REQUEST

Mr. MILLSOP. At the moment the request is for planning money.

Senator CORDON. How much?

Mr. MILLSOP. If I am not mistaken, about $35,000.

General CHORPENING. In answer to Senator Cordon's and the chairman's earlier question, the budget this year had $35,000 in it for planning for Hildebrand Lock and Dam, one under discussion.

Senator CORDON. That went out with the planning money being taken out?

General CHORPENING. That is right, sir.

Chairman MCKELLAR. Yes, all of it has gone out, all of the planning funds for our country have gone out. In foreign countries there is no limit to the amount that can be spent for planning or for construction.

Senator YOUNG. What is the estimated cost of this project?

General CHORPENING. The estimated cost is $14,865,000.

Senator YOUNG. All you are asking for is the planning money?

General CHORPENING. Planning money at this time.

Senator CORDON. Does this project involve a lock, a lock and dam, or the channel?

General CHORPENING. It involves a lock and dam and the replacement of the old, obsolete locks that have been there for many years. It is a lock and dam project for navigation.

Senator CORDON. You have given the total estimated cost of the project for the dam, locks, and everything?

General CHORPENING. Yes, sir.

Senator CORDON. And you want $35,000 to continue your planning?

General CHORPENING. Yes, sir.

Senator CORDON. I know what you are talking about now.

Chairman MCKELLAR. All right, sir. Who is the next witness, Senator?

Mr. MILLSOP. If there are no other questions you wish to ask me, that is all I have to say.

Chairman MCKELLAR. We are very much obliged to you.

(The prepared statement follows:)

STATEMENT OF THOMAS E. MILLSOP, VICE PRESIDENT OF NATIONAL STEEL CORP. AND PRESIDENT OF WEIRTON STEEL CO. AND NATIONAL MINES CORP.

Mr. Chairman and gentlemen of the committee, it is my desire to bring your attention to the urgent and immediate need for additional metallurgical coal to sustain and expand the production of steel for this country. While this type of coal is required by all producers of steel, I feel that I can speak with particular knowledge of the situation with respect to the company with which I work; our problem is typical of the general problem faced by steel producers if the Nationwide demand for steel is to be substantially met.

This problem of obtaining coal for expanded steel production is directly related to navigation facilities on the Monongahela River.

Speaking now of the producer, with which I am most familiar, I will state that—

National Steel Corp., on the basis of ingot capacity, is the fifth largest producer of iron and steel products in the United States. It is an integrated producer, which means that, in addition to the ownership of iron and steel producing facilities, National Steel has its own sources of supply of essential raw materials, such as iron ore and metallurgical coal, and it also operates facilities for transporting these constituents of steel to its manufacturing plants.

It directly, or through subsidiaries, operates three important producing units, a blast-furnace plant at Buffalo, an iron and steel manufacturing plant at Detroit, and a similar plant at Weirton, W. Va. The third operation comes under my super-

vision, as president of the Weirton Steel Co.; it consists of coke ovens, blast furnaces, Bessemer and open-hearth facilities, and finishing mills at Weirton and additional finishing facilities across the river at Steubenville, Ohio. Our operations at Weirton and Steubenville constitute a completely integrated iron and steel producing unit.

Everyone realizes that iron ore is a basic raw material in the production of steel but few people seem to appreciate that coal is just as essential. Every ton of steel needs about 1.45 tons of coal, as against 1.31 tons of iron ore, for its production. Moreover—and this is most important—it is not just coal that we need; to make steel we must have coking coal, or, more accurately, metallurgical coal. Ordinary coal is plentiful, but coal of metallurgical quality is not.

The steel plants in Pennsylvania, Maryland, and West Virginia and in the Cleveland-Youngstown district of Ohio obtain almost all of their coking coal from one source of supply, and that is the seams of coal located on the Allegheny and Monongahela Rivers upriver from Pittsburgh, Pa. Of these beds of coal, the so-called Pittsburgh seam in Fayette and Green Counties (which the Monongahela River divides) in Pennsylvania has been by far the more important. At one time, this source of supply appeared to be inexhaustible, but the unprecedented demands of World War II have so depleted the available reserves of suitable coking coal in Pennsylvania that we must turn to new fields, and not merely for future development, but for immediate use. In this connection, I would like to refer to the report submitted to the Committee on Public Works of the Senate, by the Chief of Engineers, on May 31, 1949, in which it was said:

"One of the vital requirements of the steel industry is a supply of coal with a sulfur content of 1.25 percent or less which is suitable for carbonization to metallurgical coke. Such low-sulfur coal is obtained by selective mining of low-sulfur beds, or by admixing medium-sulfur coal of about 2 percent and low-sulfur coal of from 0.5 to 1 percent sulfur content. * * * The Pittsburgh seam in the Pittsburgh, Connellsville, Uniontown, and Brownsville districts has been the chief source of supply of metallurgical coal in the Monongahela-upper Ohio River Valley. The reserve of low-sulfur coal in these districts is decreasing through extensive use. Additional sources of metallurgical coal favorably located with respect to the iron and steel industry in the Pittsburgh-Wheeling area are becoming increasingly important. It is expected that the upriver low-sulfur coals will be more extensively developed in the immediate future."

It should be noted that the report of the Army engineers refers to the immediate future. Although this reference was made about two short years ago, the situation today is much more critical than the author of the report could ever have imagined. We are once more faced with the exorbitant demands on coal made by defense preparations in steel and we have a new problem to face in the unprecedented expansion of steel-making facilities in an area which draws upon western Pennsylvania sources of metallurgical coal.

We now use at Weirton about 1,980,000 tons of coking coal a year. This is sufficient to fill about 2,000 standard 1,000-ton coal barges, if (and I emphasize the "if" for reasons which I will develop at a later point) we could load all our barges to capacity. Moreover, this is only part of the picture. To meet the requirements of the defense program, we are now building a fourth blast furnace at Weirton, which will require an additional 715,400 tons of coking coal a year to produce 511,000 tons of pig iron which, with the addition of the usual quantities of scrap, will provide about 964,100 tons of steel. The additional coal tonnage, to use a previous example, would fill 715 standard coal barges, if (and again I emphasize the "if") they could be loaded to capacity.

I trust you will excuse me if at this point I digress to speak with some pride of the investments which our company is making in the expansion-for-defense program. This fourth blast furnace will require substantial expenditures, but they will be only a fraction of our total expansion investment. National Steel Corp. at Weirton, Buffalo, Detroit, and elsewhere expects to spend no less than $150,000,000 to increase its output of essential iron and steel products. A large part of this, of course, is covered by necessity certificates, but that should not detract from the fact that, despite absurdly high construction costs, we are willing to make a new investment in plant and equipment equal to more than one-third of our total investment up to this time.

Returning to our immediate problem, we have indicated our own increased requirements of coking coal in the area. We also know that other steel producers are planning to build nine additional furnaces and to enlarge three existing facilities, which will draw upon western Pennsylvania for all or substantially all of their metallurgical coal. The increased coal demand of these new and enlarged

furnaces will amount to 6,550,000 tons per year, to produce 4,583,500 tons of iron, and of the additional coal used in these furnaces about 2,610,000 tons will move by water on the Ohio River system. The sum and substance of all these figures is this: When the defense expansion program is completed, somewhere in the Pittsburgh area, the industry, including ourselves, will have to find 7,265,400 tons of coking coal a year, of which 3,325,400 tons will move by water.

The logical place to locate this additional coal, and the coking coal which will replace depleted supplies in Fayette and Greene Counties, Pa., is in West Virginia, which apparently provides almost unlimited sources of metallurgical fuel. On this point the Army Engineers' report, to which I have already referred, says:

"The coal reserves are ample to sustain a much greater rate than the current production rate indefinitely. The lack of adequate navigation facilities on the upper river has retarded the shipment of coal from the contiguous area."

Although many steel producers have been procuring coking coal from the West Virginia mines along the upper Monongahela, we believe that we have pioneered the development of the area by the establishment of our Weirton mine above Morgantown, W. Va. We have invested over $7,000,000 in what we consider the world's most modern mining operation. A very unique part of the project is a tunnel which we carry coal from our cleaning plant to the Monongahela River on a continuous belt which is 11,200 feet long and which is probably the longest coal conveyor belt in the world.

Other steel producers will follow suit, I am sure, and in the very near future because, as I have already indicated, the exhaustion of coking-coal reserves on the lower Monongahela River is no longer a distant threat. However, there is one serious handicap against this development and against the immediate, full-scale use of the upper Monongahela supplies of metallurgical coal, and that is the dangerously obsolete navigation facilities on the higher reaches of the river.

The steel industry must have the means of transporting its coal, in bulk, in the most economical manner. The vast quantities of coal which are used in western Pennsylvania, northern West Virginia, and eastern Ohio can be moved only by water in huge 1,000-ton barges, at least six to a tow.

At the present time there are not enough barges and towboats to move the coal which the steel industry needs and, although the water carriers and the coal and steel companies are investing heavily in new barges and towing equipment, these added facilities will be barely sufficient to meet the increased requirements of the steel-expansion program and will not provide any better margin of safety.

Navigation facilities on the Monongahela have been generally adequate up to a point near the West Virginia-Pennsylvania division line. The dams have served to provide a 9-foot channel, which will accommodate fully loaded 1,000-ton barges and powerful towing equipment. The locks are long enough to handle the standard six-barge tow in a single lockage.

Above the West Virginia line, however, the situation has been different. The locks are inefficient and of a size which requires four separate lockages to handle the standard six-barge tow. The channel is only 7 feet, which means that the standard coal barge can be loaded to only 70 percent of capacity under good river conditions and 60 percent of capacity when conditions are unfavorable. To this I may add that these obsolete locks are in very poor physical condition and involve undue navigational hazards.

On these points, the report of the Chief of Engineers, which I have quoted, has this to say:

"These locks accommodate only two barges of the usual dimensions, 26 by 175 feet, or a towboat and one such barge. Thus a small tow of only two barges and towboat requires two lockages and the six-barge tow requires four lockages at each of the locks. Guide walls with lengths of only 80 to 175 feet are available, which add to the difficulty of breaking and reassembling tows. At locks 11, 13, and 15, inclusive, where the upper guide walls do not extend beyond the guard walls, protection for down-bound tows entering the locks is not afforded. A serious increase in accidents at the locks has accompanied the increase in traffic during recent years. Although most have been of a minor nature involving damage to concrete walls and gate timbers, there is an ever-present danger of serious damage resulting from a loaded tow colliding with a lock wall already weakened by age.

* * * * * * *

"The lower-river navigation facilities provide for a minimum controlling depth of 10 feet on lock sills and 9 feet in the channel from the mouth of the river to shoals near the head of pool 8. The upper-river navigation facilities provide for

a minimum depth of only 7 feet on lock sills and in the channel from the shoals of pool 8 to the head of the river.

"The capacity of the 26-by-175-foot standard coal barge is 1,000 short tons at 8.8-foot draft and 900 short tons for an 8-foot draft, which is the draft commonly used on the lower river. The controlling depth on the upper river permits a loading of coal barges at only 600 tons which penalizes the economy of the haul throughout its entire length."

The Congress has made a good start in the direction of eliminating these formidable bottlenecks in upriver navigation. A program to substitute three modern locks and dams for the six obsolete structures, known as locks 10 to 15 (reaching from the West Virginia line to the head of navigation at Fairmont) has been authorized by the Congress. The first step in the program has been taken and substantially completed; locks 10 and 11, near Morgantown, have been replaced by the new Morgantown locks and dam, a very modern and efficient facility.

But the program as a whole is almost worthless until it is completed. It does no good to have a deeper channel at Morgantown or facilities which will handle a standard tow of six fully laden barges, if the tows must first traverse the obsolete upriver facilities.

To demonstrate the difference between the modern Morgantown facilities and the next lock and dam, No. 12, we have had photographs taken of both facilities from the air. I would like the committee's permission to introduce them in the record. I would also like to present companion photos, in which we have sketched the movement of a standard six-barge tow. A casual comparison of both sets of photographs will immediately demonstrate the difference in efficiency and economy. And remember, gentlemen, the six barges you see in the modern structure can carry 6,000 tons of coal, whereas these same barges in lock 12 are limited to about 3,000 tons. When you expect to move about 1,000,000 tons a year, which is our immediate goal, the difference in loading capacity becomes a very costly item. I shudder to think of the difference this will make when we reach our hoped-for production of 1,600,000 tons a year.

In World War II, practically all of our production was devoted to the war effort. Today, history seems to be repeating itself. In June 1951, 63.4 percent of our production at Weirton was shipped on governmental ratings and directives. This does not include our tin-plate production which was not on allocation but which we know goes into military and essential civilian uses. Moreover, we expect that the requirements of the defense program will constantly increase; in anticipation, as I have indicated, we are making the huge investments required to increase our pig-iron output at Weirton by about 511,000 tons a year.

Other shippers of coal and other commodities on the upper Monongahela are also engaged in defense production. I am quite sure that their efforts to aid the defense program will be substantially assisted, as ours will be, if the obstacles to full production posed by obsolete navigational facilities are eliminated.

We are told that no provision has been made for these needed facilities because they represent a new project and new civilian projects are to be subordinated to the defense program. The conclusive answer is that it is not a new project, but the continuation of a program already begun, and, most important, it is directly related to the defense effort.

I can think of no better way to close my statement than by reference once again to the report of the Chief of Engineers, in which it is said:

"The proposed improvement of the upper Monongahela River would provide a modern water-transportation facility for the important Fairmont coal-producing district in relation to down-river industrial areas. It would place the upper river on a par with the lower river. The limited navigation facilities available on the upper river have restricted the volume of commerce on the river. The commerce on the upper river has never attained a volume proportional to the valley resources such as has been obtained on the lower river for a long period, favorable access to the up-river reserve of metallurgical coal."

* * * * * * *

"The desired improvement would benefit not only the upper-river region but also the down-river Pittsburgh-Wheeling steel-production area by providing favorable access to the up-river reserves of metallurgical coal."

It is my belief that the continuation of the project is essential to the defense program and that the construction of the next lock and dam at Hildebrand should be undertaken as promptly as possible.

TRANSPORTATION ON MONONGAHELA RIVER

Senator KILGORE. The State geologist will present the coal picture.

Mr. PRICE. I would like to refer to the map as I go along.

My name is Paul H. Price, and I am the State geologist of West Virginia. I have spent my entire professional career, 30 years, on the banks of the Monongahela River. The State Geological Survey is located at the University at Morgantown. I use that as qualification to be entitled to talk on this particular subject.

I have prepared a statement somewhat in detail showing the resources of the area which can and will be handled by water transportation or available for water transportation.

Senator CORDON. This map depicts the natural resources tributary to this particular waterway with reference to which we have had this discussion?

Mr. PRICE. Exactly, sir.

Chairman MCKELLAR. Without objection, your statement will be placed in the record. Do you wish to say anything else about that?

Mr. PRICE. Well, I would just like to emphasize what has been said so many times. This is an area of vast natural resources with particular emphasis upon coal, and it is an area where large reserves of metallurgical coal are available.

Senator CORDON. What is the difference between metallurgical coal and the garden variety of coal?

Mr. PRICE. Metallurgical coal acquires certain chemical and physical properties. It is low in sulfur and not too high in ash, and it will coke when subjected to heat.

Senator CORDON. Is that type of coal a rather scarce commodity?

Mr. PRICE. It is getting very scarce especially in the area of the steel mills. As Senator Kilgore has pointed out, the coal reserves in the Pittsburgh area and the Wheeling area and the coal in that basin is pretty well worked out, so that they are having to move farther up the river.

Senator CORDON. You are not familiar with the Muskingum River in Ohio, are you?

Mr. PRICE. I have heard a great deal about it as a water project.

Senator CORDON. There was testimony here yesterday that there were deposits of coal on both sides of that river for quite some distance, and I wondered whether you knew anything about that or whether in your work you might possibly have been called upon to advise yourself of that.

Mr. PRICE. I have somewhat. I do not believe that we can say in general that those are as good coals.

Senator CORDON. That is the point I was getting at.

Mr. PRICE. Yes, sir.

Senator KILGORE. Those are not what we class as good, high-grade metallurgical coals such as the coals that we are talking about in this basin; is that correct?

Mr. PRICE. That is correct.

Senator KILGORE. They are a good fuel coal, but not a good metallurgical coal?

Mr. PRICE. That is correct.

Now, I could discuss the geology and the resources phase indefinitely. I know that there are other people here to appear before the committee. I would be happy to answer any questions that might be pertinent to this. Otherwise, I will leave my statement for the record.

Chairman McKellar. All right, Senator.

Senator Kilgore. May I say, gentlemen, that Dr. White was the first geologist that we had in West Virginia. Dr. Price succeeded Dr. White and grew up under him. So he is thoroughly familiar with the geology of the State, and all of our geological reports have been prepared by either Dr. White or Dr. Price, who was Dr. White's pupil and successor. He knows thoroughly the metallurgical situation and the coal and mineral situation of the State of West Virginia.

Chairman McKellar. All right, sir; we are very much obliged to you.

(The prepared statement submitted follows:)

Statement by Dr. Paul H. Price, State Geologist for West Virginia

Other than a few years' time out for additional schooling and Army service, I have spent my entire professional career (30 years) with the State geological survey on the banks of the Monongahela River at Morgantown, W. Va. This should qualify me to speak with some authority on the mineral resources of the watershed of the area and the needs for their more efficient development and utilization.

As State geologist I have appeared three times previously to urge improved navigation facilities for the upper Monongahela River.

The first occasion was on December 11, 1947, at the public hearing for that purpose held at Morgantown, W. Va. The second was here in Washington before the Senate Subcommittee on Public Works on March 14, 1948. The third was in July 1951, before the United States Senate Appropriations Subcommittee on Army Civil Functions.

At each of these meetings, among other things, I said "I favor and strongly recommend improving the existing waterway-transportation facilities of the upper Monongahela River, because it will greatly aid the further development of the area's vast natural resources, and can therefore be looked upon as an investment rather than an expenditure."

At each appearance I submitted a prepared written statement, with map, outlining the mineral resources which would be effected by such improvements.

The full development of these resources will bring about, not only industries for their recovery but numerous allied and subsidiary industries as byproducts, which in turn makes for more real wealth, employment, better living conditions, and new sources of wealth for taxation.

A revised copy of the original statement is again submitted but I should like to amplify a few of the major points.

1. The area abounds in fuels, especially coal of metallurgical grade. There yet remains at the beginning of this year, within 10 miles of the river in the two counties of Monongalia and Marion, over 3 billion tons of coal in seams 3 feet in thickness and over. At the present rate of production these coals will last over 100 years.

2. Other important bulk resources requiring low-cost transportation are dimension stone, pulpstone, glass sand, and clays.

Our present national defense program requires great quantities of steel. The manufacture of steel requires a low-sulfur metallurgical coal. To a large extent our steel industry is located in the Pittsburgh, Weirton, and Wheeling districts served by the Monongahela and Ohio Rivers and designed to use water transportation.

The reserve of low-sulfur metallurgical coal which formerly furnished the chief supply for these mills is rapidly approaching exhaustion. It is, therefore, evident that these steel companies must obtain their coals from other fields of greater distances. Such reserves are available on the upper reaches of the Monongahela River. It appears, therefore, that the principal and logical sources of metallurgical

coal for the Pittsburgh-Weirton and Wheeling districts will be the low-sulfur upper Freeport coal of Monongalia and Preston Counties and the remaining low-sulfur reserves in the Pittsburgh coal seam adjacent to the Monongahela River.

As an integral part of our defense planning great emphasis is being given by the Department of the Interior and other Government agencies to synthetic liquid fuels. The United States Bureau of Mines station on the university campus at Morgantown is carrying on continuous research on the gasification of coals, an important phase of this program. Great progress has already been made.

In preliminary investigations for a liquid synthetic fuel plant a logical site was shown to be on the upper Monongahela. The area abounds in the necessary raw materials of coal and water.

In view of these facts it appears obvious that this request for improved navigation facilities is very urgently needed in our defense program.

A detailed description of the more important mineral resources, together with a map showing the location of these resources in relation to that section of the Monongahela River recommended for waterway improvement follows.

NATURAL RESOURCES OF MONONGALIA AND MARION COUNTIES, W. VA.

The following data have been compiled from West Virginia Geological Survey reports [1] together with the writer's own knowledge of the area. These included data are purposely made brief. For further detailed information the reader is referred to the above-noted publication.

Coal.—At the present time coal is by far the most important natural resource in these two counties. Much of the coal is of metallurgical grade. The approximate location and original quantities available can best be shown by means of tables and outline figures. With the exception of the Washington, which has been computed to have an average thickness of only 2 feet, all the coals included in this report have an average of 3 feet or more. All figures on coal tonnages available represent the original amounts. It is the writer's belief that long before the thicker seams are exhausted, better mining methods will permit the mining of more coal from the present seams as well as thinner seams, equal to what has already been taken from the area.

The amount of coal by counties, districts, and seams follows:

Available coals in Monongalia and Marion Counties

WASHINGTON COAL

Counties by districts	Square miles	Acres	Cubic feet of coal	Short tons of coal
Monongalia:				
Battelle	56.40	36,096	3,144,683,520	125,787,341
Clay	57.04	36,506	3,180,402,720	127,216,109
Cass	7.65	4,896	426,539,520	17,061,581
Grant	6.70	4,288	373,568,560	14,942,742
Total	127.79	81,786	7,125,194,320	285,007,773
Marion:				
Mannington	90.79	58,106	5,062,194,720	202,487,789
Pawpaw	15.65	10,016	872,593,920	34,903,757
Lincoln	24.01	15,366	1,338,685,920	53,547,437
Fairmont	4.18	2,675	231,046,000	9,241,841
Total	134.63	86,163	7,504,520,560	300,180,824
Total for area	262.42	167,949	14,629,714,880	585,188,597

[1] Monongalia-Marion-Taylor Counties, Detailed Geological Report with topographic and geologic maps scale 1 to 62,5000.

Available coals in Monongalia and Marion Counties—Continued

WAYNESBURG COAL

Counties by districts	Square miles	Acres	Cubic feet of coal	Short tons of coal
Monongalia:				
Battelle	56.40	36,096	5,403,196,160	216,127,846
Clay	63.43	40,595	6,199,113,700	247,964,548
Cass	16.69	10,682	1,628,576,720	65,143,069
Grant	17.69	11,322	1,726,152,120	69,046,085
Total	154.21	98,695	14,957,038,700	598,281,548
Marion:				
Mannington	98.30	62,912	9,591,562,520	383,662,501
Pawpaw	29.60	18,944	2,888,202,240	115,528,090
Lincoln	42.44	27,162	4,141,118,520	165,644,741
Fairmont	9.35	5,984	912,320,640	36,492,826
Grant	.52	333	50,769,180	2,030,767
Total	180.21	155,335	17,583,973,100	703,358,925
Total for area	334.42	214,030	32,541,011,800	1,301,640,473

SEWICKLEY COAL

Monongalia:				
Battelle	56.40	36,096	7,075,537,920	283,021,517
Clay	63.49	40,634	7,965,076,680	318,631,067
Cass	28.04	17,946	3,517,774,920	140,710,997
Grant	32.23	20,627	4,043,304,540	161,732,182
Total	180.16	115,303	22,601,694,060	904,095,763
Marion:				
Mannington	100.09	64,058	12,556,649,160	502,265,966
Pawpaw	38.49	24,634	4,828,756,680	193,150,267
Lincoln	56.02	35,853	7,081,905,060	283,276,202
Fairmont	19.29	12,346	2,420,062,920	96,802,517
Total	213.89	136,891	26,887,373,820	1,075,494,952
Total for area	394.05	252,194	49,489,067,880	1,979,590,715

REDSTONE COAL

Monongalia	11.27	7,212.8	125,675,828	5,027,032

PITTSBURGH COAL

Monongalia:				
Battelle	56.40	36,096	10,936,392,320	437,455,693
Clay	63.49	40,634	12,389,319,280	495,572,771
Cass	29.66	18,982	5,787,991,440	231,519,658
Grant	34.45	22,048	6,722,876,160	268,915,046
Union	8.22	5,261	1,604,184,120	64,167,365
Morgan	1.21	774	236,008,080	9,440,323
Clinton	.01	6	1,829,520	73,181
Total	193.44	123,801	37,678,600,920	1,507,144,037
Marion:				
Mannington	100.09	64,058	19,532,565,360	781,302,614
Pawpaw	39.01	24,966	7,682,632,720	307,305,309
Lincoln	56.42	36,109	11,010,356,280	440,414,251
Fairmont	19.81	12,678	3,865,775,760	154,631,030
Grant	13.68	8,755	2,669,574,600	106,782,984
Winfield	3.29	2,106	642,161,520	25,686,461
Union	1.02	653	199,182,760	7,967,310
Total	233.32	149,325	45,602,249,000	1,824,089,959
Total for area	426.76	273,126	83,280,849,920	3,331,233,996

Available coals in Monongalia and Marion Counties—Continued

UPPER FREEPORT COAL

Counties by districts	Square miles	Acres	Cubic feet of coal	Short tons of coal
Monongalia:				
Grant	1.17	748.8	97,853,184	3,914,127
Union	14.75	9,440	1,233,619,200	49,344,768
Morgan	12.25	7,840	1,024,531,200	40,981,248
Clinton	25.25	16,160	2,111,788,800	84,471,552
Total	53.42	34,188.8	4,467,792,384	178,711,695
Marion:				
Winfield	17.02	10,892.8	1,423,471,104	56,938,844
Union	.99	633.6	82,798,848	
Total	18.01	11,526.4	1,506,269,952	56,938,844
Total for area	71.43	45,715.2	5,974,062,336	235,650,539

LOWER KITTANNING COAL

Monongalia	24.01	15,366	2,677,371,040	107,094,874
Marion	66.40	42,496	7,408,503,040	296,340,122
Total for area	90.41	57,862	10,085,874,880	403,434,996
Monongalia and Marion grand total	1,590.76	1,141,890	196,126,257,524	7,841,766,348

Clay and shale.—The Monongalia and Marion area is well supplied with valuable clay and shale deposits, and at numerous geological horizons, but at the present time only a small proportion of those are utilized. The clay industry will provide employment for a large number of people in this district as well as considerable income to the operators of this area. When the important undeveloped deposits become better known and considered in connection with better transportation facilities, the industry is expected to greatly increase.

On the Monongahela River, between Morgantown and the Pennsylvania line and along Dunkard Creek, there are large deposits of river clay that are suitable for brick manufacture. These deposits were formerly worked successfully at Morgantown.

There is an abundance of excellent shale for brickmaking in every district of the two counties. The Washington fire clay shale, which occurs just below the Washington coal, will provide material for brick wherever found. At least these shales of this Conemaugh series, bisecting the area from north to south, are good for both building and paving brick. The Mauch Chunk red shale, some 300 feet thick at its outcrop along Cheat River and Deckers Creek in Monongalia County, offers an unlimited amount of material suitable for brick.

Refractory clay.—East of the Monongahela River, fire clays are found in each of the two counties. Because of their quality and quantity these refractory clays will be in much greater demand in the very near future. Fire brick is now manufactured at Hammond, Marion County.

AVAILABLE LIMESTONE

Limestone suitable for road construction and agricultural purposes are found in the Monongahela, Conemaugh, Allegheny, and Greenbrier series in each of the two counties. Limestone suitable for cement manufacture is confined to three localities in eastern Monongalia County. At Greer, Monongalia County, a large limestone plant has been in active operation for many years.

RIVER AND CREEK GRAVEL

There is an abundant supply of gravel in nearly all the larger stream beds that is available for road material.

AVAILABLE SAND

The stream terrace deposits of the Monongahela Valley, already extensively developed, offer a large amount of sand for building purposes. This sand is unconsolidated and convenient to transportation.

PULPSTONE AND BUILDING STONES

Monongalia County is probably the largest individual producer of natural pulpstone abrasive in the world. In former times, and even yet, this is a valuable resource to this area. These stones are for the most part shipped to the various pulp mills of the United States and Canada. Occasional orders have been shipped to Japan. These pulpstone quarries are all located along the Monongahela River between Fairmont and Morgantown.

Along with pulpstone the entire area is blessed with an unlimited supply of excellent sandstones suitable for all kinds of masonry and construction work. The use for which these stones have been put has been confined largely to local building, i. e., Methodist Episcopal church, president's home, and numerous private homes in Morgantown; walls, bridge piers, and abutments, and curbing, both locally and at Pittsburgh, Pa. The only reason these natural building stones have not had a greater development is because of expensive quarrying operations and freight rates.

Monongahela River transportation and new techniques in quarrying will undoubtedly place the natural building stone of this area in a strong competitive position among the building stones of the country.

A list of sandstone horizons that have been or are now being operated in this area follows:

Quarry	Sandstone horizon	Location
J. D. Charlton	Mannington	Mannington.
A. R. Wilcox	Waynesburg	Downs.
Georges Creek, C. & O.	do	Underwood.
C. B. Conoway	do	Barracksville.
Georges Creek, C. & O.	Gilboy	Underwood.
J. F. Watson	Sewickley (Arnoldsburg)	Fairmont.
George Lilley	Pittsburgh	Do.
J. F. Watson	Upper Pittsburgh	Do.
W. B. Ice & Co.	do	Do.
Wm. Cox	(Lower) Connellsville	Morgantown.
Zever'y and Casto	Morgantown	Do.
Wm. Gaston	do	Do.
W. A. Willbide	Buffalo	Grafton.
Charles Stozenfels	do	Do.
John M. Keane	do	Do.
Christian	do	Morgantown.
L. V. Keck	do	Do.
Sims & Co.	Mahoning (upper Freeport)	Yates.
D. N. Going	Homewood	Dellslow.
Deckers Creek Sand Co.	Homewood (upper Connequessing)	Sturgisson.

GLASS SAND

Sandstones suitable for glass sand are found in the Pottsville series in both counties. In the valley of Deckers Creek, Monongalia County, these horizons are now being operated for glass sand as well as other purposes for which sand is used.

In the Cheat River Canyon the Pottsville series is exposed throughout a large areal extent, but lack of transportation prevents present development. Along the Tygart River in Marion County and bordering Taylor County, the Homewood and Connoquenessing sandstones outcrop at Valley Falls, where quarries could easily be developed.

IRON ORE

Monongalia County was the scene of an extensive iron-making industry from 1800 to 1870. Five furnaces were operated along Cheat River near Ices Ferry, one at Clinton Furnace, on Booths Creek, and one at Rock Forge on Deckers Creek. In Marion County there was a furnace on Piney Run, Winfield district.

The iron ore available in the territory of this report is largely from carbonate and is not of sufficient quality and quantity to compete with the Lake Superior ores.

NATURAL GAS AND PETROLEUM

Monongalia and Marion Counties have been important producers of Penn-grade petroleum in past years but present production is very small. In these old fields however, there remains as much or even more oil than was produced by primary methods. Secondary recovery methods which are now being generally adapted will cause these counties to continue to produce oil for many years.

New discoveries of large-volume natural gas fields in the adjoining counties together with improved storage and pipeline facilities assure the area of abundant supply of this important fuel.

Respectfully submitted.

PAUL H. PRICE,
State Geologist, West Virginia Geological Survey.

MORGANTOWN, W. VA., *May 18, 1952.*

Chairman MCKELLAR. All right, who is the next witness?

Senator KILGORE. Senator Neely is here. This is in his back yard. I did not know he was here. I was going to ask him to make the initial statement. I did not see him come in.

STATEMENT OF HON. MATTHEW M. NEELY, A UNITED STATES SENATOR FROM THE STATE OF WEST VIRGINIA

Senator NEELY. Mr. Chairman, this will be off the record.

(There was a statement off the record.)

Senator CORDON. You have a perfect right to do that for West Virginia.

Senator NEELY. What is that, sir?

Senator CORDON. I say that in my book you would have a perfect right to do that for West Virginia.

Chairman MCKELLAR. I can only say, as I have said before in these hearings, that I think this planning ought to be continued and we ought to build our own country and make it strong.

Senator KILGORE. I agree with the chairman, and I think we ought to expedite this locking problem as fast as possible because of the extreme importance of handling this coal not only in peacetime, but in wartime. Because, as I said, the railroads are not in shape to handle it, and the cost of building railroads that can handle it is almost prohibitive.

Chairman MCKELLAR. Is this quite a mountainous area?

Senator KILGORE. It is a rugged area, not one of high mountains. The fact is that due to the sloping rocks everything slides. We have a terrible time building highways in that area. We have to anchor them down in order to keep them from sliding. We have to watch slides all the time, and the same thing applies to the railroads.

I have spent a lot of my time up in that area, and I know that they used to get blocked off repeatedly on the railroad because the base for the earth and the rock slopes, and when you get much water in there, why, the thing slides and the roadbeds will slide. So the only real outlet there, and of course, the cheapest outlet for getting this coal to the mills, is water.

Now, all of those mills in the Pittsburgh area have access to the river. In other words, they were put in for that purpose, and they have their locks and piers for handling the coal and bringing it in. If they can get that coal out of the Upper Monongahela River Basin, it will mean more steel and better steel and cheaper steel for the people of the United States. When you consider that that goes to one-third of our total steel output, it has a tremendous effect upon this country as a whole.

Now, Mr. Chairman, we have one gentleman here from the United Mine Workers. Mr. Conley, do you have anything you want to say for the record?

STATEMENT OF C. E. CONLEY, PRESIDENT LOCAL 4040, UNITED MINE WORKERS OF AMERICA, MORGANTOWN, W. VA.

UPPER MONONGAHELA RIVER

Mr. CONLEY. Yes, Senator.

Chairman MCKELLAR. Will you come forward, sir.

Do you have a prepared statement?

Mr. CONLEY. Yes, Mr. Chairman.

Chairman MCKELLAR. Without objection, your statement will be filed for the record.

Mr. CONLEY. There is just one paragraph that I would like to read concerning myself and what I represent. The rest of the statement I would like to file.

Chairman MCKELLAR. That will be done.

Mr. CONLEY. Mr. Chairman and gentlemen of the committee, my name is C. E. Conley. I am a resident of Morgantown, W. Va., and have been for 30 years. My occupation is that of a coal miner. I have followed this occupation for 35 years. I am a member of the United Mine Workers of America and have been during the entire period of my occupation as a coal miner. I have held the office of president and am now president of local union 4040, mine committeeman, member of the relief committee, and also have represented my local union at various union conventions, and have held many other positions of honor in my local union.

Now, I have a prepared statement here which I would like to file for the record.

Chairman MCKELLAR. We are very much obliged to you, Mr. Conley.

Are there any questions? If not, we are very much obliged to you.

(The prepared statement submitted follows:)

STATEMENT OF C. E. CONLEY, MORGANTOWN, W. VA., PRESIDENT OF LOCAL 4040, UNITED MINE WORKERS OF AMERICA

CONSTRUCTION OF UPPER MONONGAHELA LOCK AND DAM SYSTEM TO EXPAND COAL MINING

Mr. Chairman and gentlemen of the committee, my name is C. E. Conley. I am a resident of Morgantown, W. Va., and have been for 30 years. My occupation is that of a coal miner. I have followed this occupation for 35 years. I am a member of the United Mine Workers of America and have been during the entire period of my occupation as a coal miner. I have held the office of president and am now president of the local union 4040, mine committeeman, member of the relief committee, and also have represented my local union at various union conventions, and have held many other positions of honor in my local union.

There are at least six or seven mines now in operation between Morgantown and Fairmont, W. Va., on the Monongahela River that could load coal on the river if this river was provided with proper locks and dams.

There are thousands of acres of coal land that would be developed if proper locks and dams were provided by our Congress on this river between Morgantown and Fairmont.

Lock No. 10, which was recently constructed by the Government, was a noble beginning, but the backwater of this lock does not reach the large coal fields that should be provided with river transportation.

Our Government needs steel for the defense of this Nation; the steel mills need the coal to manufacture the steel; the coal operators need the demand for coal, which they would get if they had river transportation, and the coal miners of Monongahela and Marion Counties need the steady employment, which we would all get if one more lock, at least, were built on this river.

I have seen the good members of my union leave the employment of coal operations above lock No. 10 on this river and seek employment with coal operations below lock No. 10 simply because all the operations below lock No. 10 on this river that had river transportation were working steady, but the coal operators above lock No. 10 were down because there was no demand for their coal, and when they are down the members of our union are down, only in a much worse condition because without steady employment under the high cost of living we suffer and our families suffer.

Our unions in this valley are not asking the Government for a hand-out when we ask our Government to construct another lock and dam above lock No. 10 on the Monongahela River so that the large coal fields in this county can be given river transportation for their product. We are only asking the Government to correct a condition which will provide steady employment for our members, and we feel sure, if our request is granted, the funds expended by the Government in correcting this condition will soon be repaid by the income taxes both the employers and the employees of the new coal operations will be paying back to the Government on the incomes of both.

LOCK NO. 10, UPPER MONONGAHELA RIVER

We have been faced with railroad strikes, which, of course, results in railroad-car shortages; we have been faced with railroad-car shortages in emergencies; and we have been faced with railroad-car shortages when there wasn't any emergencies, and now we are faced with high freight rates so that our employers can't market the coal we mine. These conditions call for action on the part of our Government, and all these troubles can be eliminated in our community by the construction of another lock and dam above lock No. 10 on the Monongahela River.

At the coal mine above lock No. 10 where I work, we just had a 10-day holiday. The week following our holiday we only had 1 day's work because the company for which I work had no coal orders but the coal operations below lock No. 10 that had river transportation have been working steady.

Our local unions above this lock No. 10 naturally are losing its membership, and the coal operations below lock No. 10 cannot absorb our losses. We want our unions to grow and we want our members to be able to receive an income necessary for good living for their families, but this hope will not be ours to realize until the Government continues the improvement which it started 2 years ago on the upper Monongahela River.

I am not only speaking the voice of my local union, but I am speaking the voice of all other local unions of the United Mine Workers of America who are suffering the conditions I have described by the lack of another lock on the Monongahela River. Our only hope is for our present Congress to immediately start the correction of the hardships we have been, and are now, forced to bear.

Respectfully submitted this the 21st day of May 1952.

Chairman McKellar. Will you call the next witness, please.

Senator Kilgore. Our next witness is Mr. Ezra E. Hamstead, attorney at law, Morgantown, W. Va.

Chairman McKellar. All right, come forward, sir.

STATEMENT OF EZRA E. HAMSTEAD, ATTORNEY AT LAW, MORGANTOWN, W. VA.

UPPER MONONGAHELA RIVER

Mr. Hamstead. Mr. Chairman and gentlemen of the committee: My name is Ezra E. Hamstead. I am a practicing attorney at Morgantown, W. Va. I have been requested on behalf of the Christopher Fuel Corp., the civic clubs of Morgantown, W. Va., the city manager of Morgantown, W. Va., and certain officials of the United Mine Workers of America in Monongalia County to present the reasons of each for their support of the proposed improvement of navigation facilities on the upper Monongahela River now under your consideration.

Each of the parties and organizations whom I have the honor to represent have reduced their respective views and reasons to written statements. I merely ask leave of this honorable committee to submit their written statements. The many civic clubs present their views embodied in the written statement of our city manager, Mr. Elmer Prince.

These statements, when read as a whole, fully relate the reasons all entertain for the proposed improvements. I do not ask your indulgence to consider any personal reasons which I might add thereto.

I have here also a number of photographs which I would like to submit.

Chairman McKellar. Well, we cannot put the photographs in the record, but the statements will be placed in the record. The photographs will be kept for the use of the committee.

Mr. Hamstead. I thank you.

(The statements referred to follow:)

STATEMENT OF H. WARD CHRISTOPHER, PRESIDENT, CHRISTOPHER FUEL CORP., MORGANTOWN, W. VA.

My name is H. Ward Christopher. I am 27 years of age, and I reside at 106 Wilson Avenue, Morgantown, W. Va. I am a graduate of Massachusetts Institute of Technology, Cambridge, Mass.

I am the president and sole stockholder of Christopher Fuel Corp., a West Virginia corporation. Christopher Fuel Corp. is engaged in the business of mining and shipping bituminous coal. The National Mine of Christopher Fuel Corp. is situated on the Monongahela River, about 5 or 6 miles south of the city of Morgantown, Monongalia County, W. Va., and about 3 miles south of lock No. 11, or what is locally known as the Hildebrand lock, of the Monongahela River.

Christopher Fuel Corp. mined and shipped 325,832.15 tons of coal for the calendar year 1951; and it hopes to mine and ship a like amount of coal for the year 1952. The maximum yearly capacity of the mine is approximately 1,000,000 tons, and the daily capacity approximately 4,000 tons. Prior to January 1952, Christopher Fuel Corp. had, exclusive of office personnel, approximately 200 employees. The number of employees has been reduced slightly since January 1, 1952.

The coal mined by Christopher Fuel Corp. is shipped by rail. It is impractical and uneconomical to ship coal by water from mines located south of lock No. 11, for the reason that barges at those points can be loaded only to 60 percent of capacity. This condition is due to the shallowness of the water of the Monongahela River south of the Hildebrand lock. Many steel mills and other potential consumers of coal are located on the Monongahela and Ohio Rivers. In the event of war, or other disaster, a substantial part of all coal mined, or which is capable of being mined, south of the Hildebrand lock, could not be transported to market under existing conditions.

If water transportation were available, production would be increased, resulting in greater employment and increased income for the employees.

The construction of a new lock, as proposed, at Hildebrand, on the Monongahela River, would make transportation by water available to the company. At the present time the Monongahela River, south of Hildebrand, cannot be used for the shipment of coal by reason of the shallowness of the water at that point. If appropriations were made by the Federal Government for the construction of a new lock at Hildebrand, and a new lock was built there, water, as well as rail, transportation would be available to Christopher Fuel Corp. and to others.

STATEMENT OF ERNEST RICHARDS, MORGANTOWN, W. VA., MEMBER OF THE UNITED MINE WORKERS OF AMERICA

IMPROVEMENT OF NAVIGATION FACILITIES, UPPER MONONGAHELA RIVER, W. VA.

My name is Ernest Richards. I am a resident of Morgantown, W. Va., and have been for 29 years. My occupation is that of a coal miner. I have followed this occupation for 48 years, having started at the tender age of 12½. I am a member

of the United Mine Workers of America and have been for 29 years. I have held the office of the president for 15 years, mine committeeman, scale committee, treasurer, and many other positions of honor in my local union. I have been most active in the advance of organized labor in my county and State and have served my organization to the best of my ability ever since becoming a member of it. I was one of the first to be appointed on the rent control board of the Morgantown rent area in 1940, and am still on the rent committee. I was a member of our 1949 State legislature.

The leaders of the United Mine Workers in this country have discussed at their union meetings, time and again, what steps should be taken to remedy the terrible railroad-car shortage that the coal operators of this valley and their employees have experienced during every single emergency. The shortage often exists even when there isn't any emergency.

Since this Monongahela River Valley is one of the largest coal-producing valleys in the United States, and is 100 percent unionized by the United Mine Workers of America, naturally, we of the United Mine Workers are not only interested in the welfare of our unions, but we are interested in seeing that our unions serve the general welfare of our country.

The great steel mills at Pittsburgh and other places along the Ohio River need the coal that is produced in the upper Monongahela Valley. The United Mine Workers of America are able to produce and fulfill that need, if we had the transportation facilities that could get the coal we mined to the steel mills. The railroads, we say, cannot do it because they haven't been able to ship our production. The railroads haven't done it in the past, and we know they won't do it in the future when the demand may even be greater.

Our organizations have been criticized and suffered prejudice in the public eye when we were obliged to effect work shortages to secure contracts of employment from our employers, but when we suffer unemployment due to the lack of railroad cars, the injury done to the members of our organization is always passed by the public without notice. This is an unfair position that our organizations are put in through no fault of their own and can be materially remedied by the development of proper river transportation on the Monongahela River and proper river transportation can be provided by the construction of another lock and dam above lock No. 10, which has recently been completed by the Government.

The situation has existed in this county for many years now, that the coal operators below lock No. 10, along the Monongahela River, enjoy river transportation for the shipment of their coal. Such mine operations give steady employment to the members of our union because when the operators can't get the railroad coal cars the shipment of their coal goes on the river and their mines can still operate because of river shipments. When the operators above lock No. 10 on the Monongahela River can't get the railroad coal cars their operations are shut down and the members of the union are without work.

Now since the freight rates are so high for railroad shipment of coal, many independent coal operators are entirely shut down while the coal operators below lock No. 10, who can ship coal by river are running full schedule. This fact is a demoralizing influence among our different union organizations. The members of our unions who are working for coal operators who do not have river transportation, because the locks were not completed, are forced to quit work and their families are often left in desperate financial trouble while the members of our organization below lock No. 10 are receiving steady employment. This is an unfair position for our brothers who are working in the mines of operators that do not have river transportation.

All of this unfairness and turmoil among our local unions can be remedied by our Congress if it will appropriate sufficient funds to construct at least one more lock and dam on the Monongahela River above lock No. 10, which the Government has just completed and put into operation. That lock was important, but it fails to reach, by at least one more lock, the big coal operations now ready to make river shipments if another lock is completed.

The United Mine Workers of this Monongahela Valley all, both above lock No. 10 and below it, earnestly request this committee to recommend appropriations that will bring an end to the employment unrest which our organizations have suffered for lack of railroad coal cars—river transportation will give us uniform employment in all of our unions throughout the entire valley.

Respectfully submitted this the 21st day of May 1952.

STATEMENT OF ELMER W. PRINCE, CITY MANAGER, MORGANTOWN, W. VA.

Gentlemen, the writer has been advised that a new hearing is being held by your committee to consider the inclusion of an item in the 1953 appropriation bill for the improvement of navigation facilities of the Monongahela River between the present lock No. 10 at Morgantown, and Fairmont, W. Va. It is the desire of the writer to express his views in behalf of the project as a result of his residence in Morgantown for the past half century, and as an employee of the engineering department and city manager of Morgantown since 1922, except during a period of World War II when he was granted a military leave-of-absence.

During the early 1900's heavy and voluminous shipments of materials, supplies, and equipment for the Morgantown area from Pittsburgh were transported on the Monongahela River; these shipments included road-building supplies and equipment, as well as supplies, equipment, and materials for industries then being located in Morgantown and the surrounding area. Since that time the demands for river transportation have changed in the character of shipments but the volume has increased manyfold. As a result of increased demands for river transportation, the United States Army Corps of Engineers, in the 1930's held hearings and made numerous surveys, of the Monongahela River between Pittsburgh, Morgantown, and Fairmont, to determine the facilities required to meet the demands for river transportation.

Again, in the middle and late 1940's the Corps of Engineers recognized the need for more adequate transportation facilities along the Monongahela River, between Morgantown and Fairmont, and surveys were made and hearings held with the subsequent hearings before committees in both Houses of Congress. The result of the surveys and hearings was the improvement of water facilities between Pittsburgh, Pa. and Morgantown and the recent construction of more modern and adequate lock and dam at Morgantown, to provide for the use of larger and more numerous river transportation units.

Since the last survey by the Corps of Engineers and hearings of Congress, large coal fields or metallurgical coal, as well as industrial organizations, have begun or expanded plant operations and propose to use river transportation for shipments of supplies and materials from their locations with deliveries to Pittsburgh, Pa., Wheeling, W. Va., and other points in the East and Middle West. A very large part of the production from the coal fields and industries between Morgantown and Fairmont and the very recent development of the Preston County coal fields are for delivery to steel mills and other industries producing equipment and supplies for national defense. The United States Army, in the latter part of 1951, awarded a contract effective January 1, 1952, for a 20-year period in 5-year increments to the Mathieson Chemical Corp. for the operation of the $65,000,000 Morgantown Ordnance Works, located on the Monongahela River, near Morgantown, for the production of ammonia, methanol, and other byproducts required for military and commercial use. The United States Bureau of Mines will receive bids May 27, 1952, for the construction of a $2,600,000 experiment station to be located about ½ mile from the Monongahela River at Morgantown. The board of governors of West Virginia University will receive bids in late summer of 1952 for the construction of the first units of a $20,000,000 medical center and school to be located in Morgantown. The Freeport Coal Co. has completed plans and is receiving bids for the construction of a large loading dock for coal and miscellaneous materials on the Monongahela River in Morgantown. The problem now facing the industrial organizations between Morgantown and Fairmont is the lack of sufficient depth of the stream to permit the use of proper river transportation units for the expeditious and economical water shipment of the supplies. The construction of another lock and dam on Monongahela River, at Hildebrand, W. Va., south of Morgantown, will provide water-transportation facilities to meet the greater part of the present demands for river transportation between Morgantown and Fairmont.

From the knowledge and experience gained by the writer, during his 63 months of military service, during World War II, as an officer in the United States Army Corps of Engineers, of which 32 months was with military government in the ETO, August 1943 to April 1946, which service was in both combat and rear areas of Italy, France, Luxemburg and Germany in charge of public works, utilities, industries, and governmental agencies, of the occupied areas to which he was assigned, the transportation by railroads and highways in these areas was completely disrupted by reason of bombing by Allied planes and demolition by retreating German armies and the countries, particularly Germany, were

forced to depend upon river transportation for distribution of commercial equipment, materials, and supplies, i. e.: Danube, Rhine, etc. Prior to and during World War II, Germany and Italy operated under dictatorship governments with the result that labor unions were outlawed and there were no such things as strikes. With strikes a part of our national routine, railroad shipments in the past have suffered severely and the same may happen in the future. The transportation problems, if coordinated with water facilities, would be diminished greatly.

During a war period strikes and sabotage of railroads and highways would definitely cripple this Nation without the aid of adequate river transportation. In the past 3 or 4 years this country has seen a dire lack of railroad cars for railroad transportation shipments while river barges for the same purposes have been plentiful. The American Automobile Association, in its magazines and news releases, has indicated that the highways of the country are saturated with automobiles and trucking equipment. State and local governments, throughout the Nation, have been and are now unable to meet the additional highway demands as a result of the very great increase in the number of automotive vehicles and construction costs, which added burdens are far and above the increases in revenue to the governmental agencies.

From personal observation in this area over the past 40 years and the experience gained while serving with the United States Army Corps of Engineers in Europe, it definitely appears that the best way in which the Federal Government may spend money for national defense is to strengthen the water-transportation system in heavily populated areas of the country and particularly the Monongahela Valley which will supply the much needed metallurgical coal to the nearby market of steel mills in the Pittsburgh and Weirton areas.

The construction of lock and dam No. 10 at Morgantown has also materially aided the United States Government in its flood-control program along the Monongahela, the Ohio, and Mississippi Rivers. The large Tygart Valley Dam, near Grafton, W. Va., constructed as a flood-control project, in conjunction with new-dam constructions along the Monongahela, Allegheny, and Ohio Rivers, could be assisted in the program by the construction of additional modern locks and dams between Morgantown and Fairmont. The United States Government, through the Army Corps of Engineers, has recently completed lock No. 10 on the Monongahela River, in Morgantown, W. Va., at a cost in excess of $8½ million, but this completed lock and dam fails to provide the facilities necessary for river transportation in the newly developed metallurgical coal and industrial areas between Morgantown and Fairmont, W. Va. By the completion of one more lock and dam, namely, the Hildebrand or lock No. 11, the recent and past investments more adequately become serviceable, and the present lock No. 10 and the proposed lock No. 11 will make available for river transportation large areas of the natural resources which are indispensable in the manufacture of steel which is so vital for our national defense. In addition to acting as a flood-control measure the Tygart Valley Dam, the present lock and dam No. 10 and the proposed lock No. 11—proposed to be located at Hildebrand, W. Va.—would provide adequate water supply for water-transportation facilities at all times, and the condition of extended drought, as in 1930 when the Monongahela River in Morgantown was completely dry, would be averted. The series of locks and dams, including the proposed Hildebrand lock and dam, would serve a dual purpose, namely flood-control and transportation facilities in both storm and dry periods. By letter dated January 2, 1952, this office requested the United States Army Corps of Engineers to recognize the necessity and urgency of an adequate water supply for the more than 35,000 persons of Morgantown and contiguous areas who are dependent upon the Monongahela River for the primary source of water supply for domestic, commercial, industrial, and fire uses; this same condition exists for all other towns along the Monongahela River from Morgantown to and including a part of Pittsburgh, Pa., which area is rapidly expanding by population and industrial growth.

As additional and supporting data to the previous statements, the following information is submitted:

(*a*) Monongahela is an Indian word meaning "sliding banks" and the Monongahela River in the terms of the Indians was the "river with sliding banks."

(*b*) The railroad services for the coal fields, industries, agriculture, passenger service, and work-train service of this area are provided by a single-track line along each bank of the Monongahela River. The Baltimore & Ohio Railroad Co. is the owner of the right-of-way along the eastern bank of the Monongahela River while the New York Central, Pennsylvania, and Baltimore & Ohio Railroads are

coowners of the right-of-way along the west side of the Monongahela River through Morgantown in both the northern and southern directions. Due to the rugged topography and terrain in this part of the Appalachian Range of mountains, railroad roadbed construction is extremely costly, and, until the development of industries and coal in Monongalia, Marion, Preston, Harrison, and adjoining counties, the additional cost to provide more than single-track roadbed was not justified. The greatly advanced cost of material, equipment, and labor required to provide additional roadbed width at this time no doubt will prevent amortization charges for such a project.

Information has been given this office that the capacity of the rail system of the Baltimore & Ohio Railroad between Fairmont, W. Va., and Connellsville, Pa., is badly taxed due to the lack of sidings and the number of trains now operated by the system in this area. The schedule calls for seven trains a day each way through Morgantown on this line. In order to expedite and provide greater volume this section of the system is now operated by Diesel-powered locomotives. Two Western Maryland trains, with about 80 cars to the train, travel over this single-track line from Elkins, W. Va., to the junction of the main line of the Baltimore & Ohio Railroad near Connellsville, Pa., under the provisions of a 99-year lease agreement with the Baltimore & Ohio Railroad. The single-track system extends from near Uniontown, Pa., through Morgantown to Fairmont, a distance of 61 railroad miles; from Fairmont to Grafton, W. Va., a distance of 25 railroad miles; or from Fairmont to Clarksburg, W. Va., a distance of 21 railroad miles, where the company is operating multiple-track systems.

The coowner system along the west bank of the Monongahela River presently accommodates 7 trains each way a day between Fairmont and Morgantown and 14 trains a day each way from 3 miles north of Morgantown to the junction point about 20 miles west of Brownsville. There are 24.2 miles of single-track railroad between Fairmont and Morgantown and 45.2 miles between Morgantown and the junction point near Brownsville, Pa. About 3 miles of roadbed from lock No. 10 north along the Monongahela River is a continuous and perpetual maintenance problem due to the banks supporting the roadbed sliding into the Monongahela River. Other sections along the west bank of the river are equally objectionable and expensive to maintain due to slips and slides of the upper banks along the roadbed.

(c) The highway system over practically all of northern West Virginia consists of the old-fashioned two-lane graded and paved roadways, following the curves and hills along the same routes as traveled in the horse and wagon days. The State Road Commission of West Virginia contends that it is unable financially to construct and maintain highways of modern design, permitting four or more lane traffic to replace the present antiquated roadways. During the calendar years of 1948 and 1949 a section of 1.9 miles in length of a highway in Monongalia County was graded and drained, namely, the extension of Beechurst Avenue from Eighth Street in Morgantown to Star City, at a cost exceeding $650,000 or more than $300,000 per mile, with free right-of-way. A part of the project, a two-lane traffic bridge, was constructed over the Monongahela River at Star City at a cost of more than $600,000. During the month of June 1951, the West Virginia State Road Commission awarded three contracts for grading and draining highways in the northern and eastern sections of West Virginia: One of these awards was 0.133 mile in length and the cost was $79,915 or about $600,000 per mile; another was 0.286 mile in length at a cost of $74,045 or about $270,000 per mile; nd t e third 0.179 mile in length at a cost of $91,350 or about $510,000 per mile. hese 6gures and costs clarify the statements of West Virginia State Road Commission as to its inability to provide funds for modern-type highway construction.

There is enclosed herewith a United States Geological Survey map, with contours, indicating the mountainous terrain of the area southwest of Fairmont to Morgantown and to the junction of the Monongahela and Cheat Rivers at Point Marion, Pa. Also enclosed are photographs of the track systems through Morgantown that indicate the confined widths upon which the railroad systems must operate.

Giving consideration to the present and future transportation requirements of the Monongahela Valley, with the excessive high costs for construction of modern railroad and highway facilities, and recognizing the present outmoded and antiquated highway and railway systems of the area with the extremely high maintenance costs, it is evident for the well-being and safety of the United States during an emergency period, and as a national defense measure, to insure the full productivity of its mineral and industrial resources that the modernization and use of river transportation along the reaches of the Monongahela River should be expedited.

These views are not presented in the interest of the development of Morgantown or any other particular area; neither are they presented in the interest of any private industry, which now or later will develop the metallurgical fields of coal and other natural resources along both sides of this river; but are in the interest of economic stability, full utilization of the very recent investments of the Government and more particularly the national defense of the Nation. It is trusted your committee will give favorable consideration and approval to the proposal for the new lock and dam construction.

Senator KILGORE. May I say that at Morgantown the United States Steel Corp. owns its biggest ammonia methanole plant, and it may become necessary in the event of a major war to use water transportation for the handling of ammonia methanole in getting it to the necessary plants.

Now, I think that concludes the matter of the upper Monongahela. We already have a record made previously on that project.

Mr. Bangert, do you want to file your statement?

STATEMENT OF H. A. BANGERT, REPRESENTING THE GOVERNOR OF THE STATE OF WEST VIRGINIA

UPPER MONONGAHELA RIVER

Mr. BANGERT. Yes, Senator.

Chairman MCKELLAR. Come forward, sir, and give your name to the stenographer.

Mr. BANGERT. I am H. A. Bangert, representing the Honorable Okey Patteson, Governor of West Virginia.

I would like to submit a statement on behalf of the Governor and also submit statements for the following:

J. R. Spease, president, Fairmont Wall Plaster Co., Fairmont, W. Va. These gentlemen were coming, but we asked them not to come so that we would not take up too much of your time.

Also a statement on behalf of the Northern West Virginia Coal Association of Fairmont, W. Va.

Robert W. Hanna, president, the Virginia and Pittsburgh Coal & Coke Company of Fairmont, W. Va.

Hugh L. Davis, secretary, treasurer of the Propeller Club of the United States, port of Pittsburgh, Pittsburgh, Pa.

Chairman MCKELLAR. The statements will be included in the record.

(The statements referred to follow:)

STATEMENT OF H. A. BANGERT

I appear before this committee as a representative of the Honorable Okey Patteson, Governor of the State of West Virginia.

In addition to the information previously furnished on the Monongahela River project, I am submitting some information on this matter which seriously views this project from a national defense angle.

Our industrial growth in recent years has been rapid along the Ohio and the Monongahela Rivers, particularly the coal industry. On the lower Monongahela River, near the mouth in the Pittsburgh district, river improvements have for years kept pace with industrial expansion. More than 15,000,000 tons passed through lock and dam No. 2 on the Monongahela River near Pittsburgh in 1946, the latest available figures. A great part of this tonnage consisted of coal to feed the vital steel industry. With the improved locks and dams and 9-foot river depth in this area, the above tonnage was made possible.

While the lower Monongahela River in the Pittsburgh area kept pace with expanding industry and brought prosperity to that district and security to the

Nation, the upper Monongahela for the past 45 years remained unimproved, discouraging the expansion of industry and the opening of new coal fields in that area.

The River and Harbor Act of 1896 authorized the extension of the Monongahela lock and dam system upstream into West Virginia by the construction of locks and dams Nos. 10 to 15. This was the beginning of the lock and dam system on the upper Monongahela River in the State of West Virginia. These locks and dams were constructed during the period from 1897 to 1903 and have been in use to the limits of their capacities since then without any further improvement or modernization.

In spite of the lack of improvements on the upper Monongahela in West Virginia with its 1903 model locks and dams and shallow water, tonnage between Morgantown, W. Va. and Fairmount, W. Va., increased 2,000 percent during the period from 1938 to 1946. The coal from mines bordering almost the entire length of the Monongahela River has been transported by barge to the Pittsburgh area largely for consumption by the steel industry. In the early days, this coal movement originated from mines along the river near Pittsburgh which resulted in short hauls to the steel mills in the Pittsburgh vicinity. Now these mines have approached exhaustion. The steel and other industries have now shifted upstream into West Virginia from whence the future coal supply must come. This movement upstream into West Virginia for vital coal has been anticipated for some time. The Army engineers predicted more than 25 years ago in 1922 in a report made by them to Congress that this upstream shift would occur. At that time, the Army engineers were farsighted and in a statement to Congress said, "Eventually it will be necessary to go farther upstream or farther inland to obtain coal for river shipment. The prospect for rapid growth of commerce on the Monongahela River with the increased demand for coal from the upper river, now very little used, with almost certain increase in trade with the Ohio and Allegheny Valleys is very bright." So reads the Army engineers' forecast in 1922 and we see that the eventualities predicted in the engineers' report of 26 years ago have become the actualities of today.

However, more important than economic and industrial expansion is the matter of national security. Metallurgical coal is essential in making steel and wars cannot be fought without steel. The present fields now supplying the steel industry with metallurgical coal are being rapidly depleted. The steel industry is looking to the upper Monongahela area in West Virginia for metallurgical coal as evidenced by its activities in the West Virginia district. Today this area is one of the largest and best coal fields in the world and is practically unscratched, with an estimated 8,000,000,000 tons of coal in Monongalia and Marion Counties, W. Va., alone, with a conservative estimated coal life of more than 150 years. During these troublesome times of unsettled world affairs and conditions abroad, it is vital in the matter of national defense and security that the proposed improvements on the upper Monongahela be realized at the earliest possible date so that these river facilities, now obsolete and inadequate, may become an additional arm of transportation and aid to the railroads. Our water transportation facilities on the upper Monongahela River are lagging far behind our production facilities. Further, from the angle of national defense will be the need for large tonnages of coal for the synthetic production of oil and gasoline from coal. In 1944 Congress passed the Synthetic Liquid Fuels Act appropriating approximately $30,000,000 for research and development work. Pilot and demonstration plants have been erected and laboratory and field tests are being made by the Government at Morgantown, W. Va., and elsewhere.

Although at this time we are not confronted with any known shortage of petroleum, we must, however, from the military standpoint, be prepared as we cannot depend on oil concessions in foreign lands in time of war as the risks would be too great to rely on such sources. In time of war, this country cannot be faced with the risk of importing oil but must be prepared if necessary to produce synthetic oil and gasoline from domestic coal. There is always the danger that the United States will depend upon import until the supply problem has become critical. Recent experiments in industrial and Government synthetic fuels research have shown conclusively that our liquid fuel supplies do not depend entirely on petroleum but can be supplemented from our much larger reserves of coal in the Monongahela River section where, including a number of counties, approximately 1,000 years of coal are available. These statistics may be obtained in detail from Dr. Paul Price, State geologist, at the University of West Virginia in Morgantown, W. Va.

On May 9, 1949, Secretary of the Interior J. A. Krug made a statement to the effect that "Liquid fuels can be made out of coal at a price not too far above oil prices." Further, in his speech, Mr. Krug stated on May 9, 1949, "The vast

coal deposits of the Nation can now be accepted as part of our liquid fuel reserve, thus enormously expanding our known reserves of liquid fuel."

In the event this country is confronted with the necessity of resorting to synthetic fuels, it is apparent that the billions of tons of coal available along the upper Monongahela River will of necessity be used for this purpose.

The New York Times, under date of September 12, 1948, made the following statement:

"The United States is on the threshold of a profound chemical revolution. The next 10 years, or 15, will see the rise of a mass of new industries which will free us from dependence on foreign sources of oil. Gasoline will be produced from coal, air, and water on a scale so huge that it will dwarf even the giant synthetic rubber industry born in desperation during World War II."

I am giving you the above information based upon facts which have come to my attention because I believe that the Monongahela River project is a vital defense arm for our country.

As a closing remark, I would like to state further that the participation of Germany in World War II would have been of short duration had it not been for her synthetic fuels.

STATEMENT OF J. R. SPEASE, PRESIDENT, FAIRMONT WALL PLASTER CO., FAIRMONT, W. VA.

My name is J. R. Spease, and I am president of the Fairmont Wall Plaster Co. at Fairmont, W. Va. We operate a sand and gravel plant on the upper Monongahela River at Fairmont, W. Va., and have been doing this for the past 34 years. We normally bring some 40,000 tons of sand and gravel to Fairmont, W. Va., each year by river. By using the river transportation, this means that we release to the railroad companies approximately 800 coal cars that would otherwise be used for transporting sand and gravel. Taking into consideration our competitors in this vicinity, the number of tons is much more than I have mentioned above.

We cannot bring sand and coarse aggregate from Pittsburgh, Pa., by river because it requires 36 hours to bring two small barges from Pittsburgh and 50 hours to bring the larger barges. Further, the large barges cannot come over the river at all for the last 18 miles due to the shallow channel. It takes 12 to 14 hours to bring two small barges from Point Marion, Pa., to Fairmont, W. Va., a distance of 36 miles. During the past few years we could have handled much more material if we could have brought it in by river from Pittsburgh. Now, with the new dam at Morgantown in operation, we are only some 18 miles above it and consequently, improvement of the old locks and dams would give us relief at Fairmont.

I have seen occasion in the past few years where the channel was so filled with mud that it was next to impossible for us to navigate our barges. Some time ago, in trying to pull a barge of sand out of the mud, we threw our derrick and demolished it. On numerous occasions in the past I have seen barges stuck in the mud experiencing great difficulty getting out. On one occasion the channel was so shallow that a barge of sewer pipe stuck in the mud, breaking the main gas line across the river at the point where we were grounded, which shut off the gas supply for many hours.

We furnish a great many cement blocks and also ready-mixed cement to various coal companies and industries in the vicinity of Fairmont and elsewhere. Many of these companies who use our material are working on national defense matters. When railroad cars are scarce it is difficult at times for us to get cement transported. There are two cement companies located on the river near Pittsburgh, Pa., from whom we could obtain cement if we were able to bring it to Fairmont by river barge. However, this is almost impossible for a great part of the year due to the obsolete locks and dams above Morgantown on the upper Monongahela River.

In view of the above circumstances, I respectfully request that this committee make the necessary appropriation so that the upper Monongahela project, previously authorized on occasions in the past and now partially completed, may be expedited and completed as soon as possible.

STATEMENT ON BEHALF OF THE NORTHERN WEST VIRGINIA COAL ASSOCIATION, FAIRMONT, W. VA.

My name is George S. Brackett, and I am president of the Northern West Virginia Coal Association, a voluntary association composed of 66 coal companies operating 86 mines, in a territory comprising 22½ counties in the northern section

of West Virginia, and which mines produce approximately 30 million tons of bituminous coal per year.

Bituminous coal is the most important commodity in point of value and volume as well, originating in Monongalia and Marion Counties of West Virginia, which moves on the Monongahela River.

Coal shipments on the Monongahela River from Monongalia County began in the year 1935, but we do not have the records of those earlier river shipments, except for the year 1937, when our records show that 427,242 tons were shipped.

In order to give you an idea as to the volume of coal tonnage which has been moving by river from Monongalia and Marion Counties over the past several years, we give you below our records of coal traffic moving by river beginning with the year 1941 (Monongalia and Marion Counties are the only counties in district No. 3, northern West Virginia, where bituminous coal is moved by river):

	Tons		*Tons*
1941	245, 538	1946	779, 189
1942	842, 697	1947	1, 519, 320
1943	968, 778	1948	1, 320, 158
1944	1, 296, 884	1949	[1] 533, 000
1945	1, 024, 672	1950	[2] 1, 567, 000

[1] Strike year and 3-day workweek.
[2] Preliminary figure.

The total production of bituminous coal from Monongalia and Marion Counties from the year 1941 through 1950 (the past 10 years) was 201,866,987 tons. The total coal shipments which moved out by river from the above-mentioned two counties in that same period was 10,097,236 tons, so that the number of tons moved by river would amount to 5 percent of all the coal produced in those above-mentioned counties during those same 10 years mentioned above.

A great many industries are located directly on rivers and they have expended large sums of money to provide the proper facilities in order to procure their coal requirements by way of river movement, and many such industries have no other means of obtaining sufficient fuel to carry on their normal operation except by way of river transportation. Such industries should be amply protected.

Large power plants and more and more industrial plants are now being established, or will be established, along the Ohio River. With very large bodies of coal from several seams available here in this district, and adjacent to the Monongahela River, it would only seem natural to us that a large and expanded volume of river transportation may be anticipated, providing that the necessary improvements in the river channel and locks are made.

River transportation has also been an extremely valuable supplement to rail transportation in the bituminous-coal industry in general. In times of short car supply, and during times of peak demand and peak production when the railroad facilities are overtaxed, and when the railroads are unable to furnish sufficient equipment to handle the required tonnage, the river movement has been most advantageous.

This supplementary aid by river transportation has been a valuable asset to this district during the past several years, when the coal companies throughout our district as a whole were frequently only able to work their mines approximately 3 days per week for lack of railroad cars. This advantage of being able to load coal on the river makes for more flexibility in transportation and, as stated above, is a most valuable asset in time of short car supply such as our district has experienced many times in the past years.

This additional outlet of transportation via river movement has also aided materially in giving our mine labor some additional and much-needed work and thereby increasing the mine worker's income for the benefit of himself and his family, as well as being a decided benefit to the whole community.

River transportation has also helped the coal operator by affording his mine or mines better running time than he otherwise would have had, and a steadier working time makes for improvement in the cost of his operation.

In elaborating on the railroad car shortage problem mentioned above, we would like to point out that the railroad coal car supply, for the 6-month period ending December 31, 1950, on the Monongah division of the Baltimore & Ohio Railroad averaged only 61.7 percent. This figure represents the percentage of cars placed as to cars ordered at mines on the Monongah division. During the same period of time, the railroad coal car supply, based on cars placed against orders, at mines in district No. 3 served by the Monongahela Railway, was only 55.1 percent. These two railroads serve all mines in Marion and Monongahela Counties that ship coal by river.

From this, it can readily be seen how beneficial river transportation is to this district, because by being able to ship coal by river, the mines and the mine workers may secure better working time when railroad cars are scarce. This will then also permit the use of badly needed coal cars at mines that are geographically prohibited from using the river as a means of shipping their product.

Although in the past several months of this present year, the shortage of coal cars in this district has been of slight consequence, yet from many years' experience, we do not believe that sufficient coal cars will be available in the future to permit the coal companies in district No. 3 to work their mines steadily, when the demand for coal requires full-time operation. We should, therefore, now try to make better use of every avenue of transportation which may be available to us.

A deeper channel on the Monongahela River in West Virginia is necessary to permit the better utilization of the river equipment which is furnished to our mines, and instead of loading many of our river barges a little more than half full, as has been done in the past, our coal operators should be able to load them to full capacity for the benefit of their customers and in the interest of efficiency.

Necessary improvement in some of the outmoded locks on the Monongehela River in West Virginia, or the building of new locks and/or the elimination of some of the present locks, a continuation of the project which has been started at Morgantown, W. Va., will contribute much for more efficient handling and for the speeding up of the movement on the river for greater economy in the river coal traffic.

We expect Monongalia and Marion Counties to again ship better than a million and a half tons of coal on the Monongahela River during the present year, 1951, even with the inadequate river facilities that we have at the present time. With a deeper river channel and improved locks, a very substantial increase in the river coal traffic would be sure to follow, and such an increase in the movement of bituminous coal on the river would result in material benefits to the coal-consuming public in general, to labor, and to the coal operators and to the local communities as well.

For your further information we are attaching hereto a statement showing the present potential production per day and per year, of coal companies which already have loading docks on the Monongahela River in West Virginia; and also a list of other companies, whose mines are also on or practically on the river which could build river docks; and also another list of companies whose mines are located slightly off the river, several of which have shipped via the river in past years.

Operating companies having loading docks on the river at the present time and shipping via river and present rating per day:

	Tons
Christopher Coal Co., Arkwright No. 1 mine	5,200
Consolidation Coal Co. (West Virginia), Consol No. 93 mine	4,000
McCartney Mining Corp., Mon-Ark mines	850
National Mines Corp., Weirton No. 1 mine	4,000
Rosedale Coal Co., Rosedale mines	3,200
Valley Camp Coal Co., Maiden mine	3,750
Virginia & Pittsburgh Coal & Coke Co. (various mines trucked to river)	850
Total	21,850

The above seven companies having river docks have a daily rating at the above mines of 21,850 tons per day. On a 5-day-per-week basis, and working every day, these mines would produce a total of 5,681,000 tons per year.

Mines located on or practically on the river which could build river docks and load on the river and present rating per day:

	Tons
Christopher Coal Co., Booth No. 6 mine	2,200
Christopher Fuel Corp., National mine	2,500
Consolidation Coal Co. (West Virginia):	
Consol No. 97 mine	2,100
Everettville mine	3,000
Konya Coal Co., Byrne No. 2 mine	350
Lockview Coal Co., Lockview mine	250
Monongahela Rail & River Coal Corp., Emily mine	1,800
Pursglove Coal Service Corp., Pontiac mine	1,600
South Union Coal Co., Jamison No. 11 mine	2,600
Virginia & Pittsburgh Coal & Coke Co., Morgan mine	650
Total	17,050

The 10 mines listed above, are located on the river, but do not load on the river now, but all could put in river docks. These 10 mines have a present daily rating of 17,050 tons per day and on a 5-day-per-week basis, working every day, could produce 4,433,000 tons per year.

Mines located slightly off the river, but several of which have shipped via the river at some time or other in past years and present rating per day:

	Tons
Christopher Coal Co.:	
Brock No. 4 mine (4-mile truck haul)	3, 500
Osage No. 3 mine (2-mile truck haul)	4, 800
Pursglove No. 8 mine (2-mile truck haul)	2, 600
Pursglove No. 15 mine (2-mile truck haul)	4, 500
Jamison Coal & Coke Co., Jamison No. 9 mine (11-mile truck haul)	4, 400
Klink Coal Co., Eleanor mine (1-mile truck haul)	500
Trotter Coal Co.:	
Bunker mine (3-mile truck haul)	4, 000
Louise mine (2-mile truck haul)	1, 000
Total	25, 300

The above eight mines located slightly off from the river have a daily rating of 25,300 tons per day, and on a 5-day-per-week basis, working every day, these mines could produce 6,578,000 tons per year.

STATEMENT BY ROBERT W. HANNA, PRESIDENT, THE VIRGINIA & PITTSBURGH COAL & COKE CO., FAIRMONT, W. VA.

It is indeed a pleasure to appear before this honorable committee to recommend immediate appropriations for the construction and installation of the new lock No. 10 at Hildebrand on the Monongahela River, in accordance with plans prepared and recommended by the Army engineers.

Our company has operated mines in northern West Virginia since 1890 and has been shipping coal since 1942 by barges on the Monongahela River from our Kingmont river dock, located on the Tygart River, 1.2 miles above the junction of the Tygart and West Fork Rivers. It is the southernmost coal-loading dock on the Monongahela or its tributaries. In the past 8 years we have shipped 1,398,218 tons of coal from our dock. The coal is hauled to our docks from small mines in Marion, Harrison, and Taylor Counties, some of it being hauled as much as 21 miles. Due to the shallow depth of the locks and channel, we are limited to loading our barges to approximately 610 tons average per barge—these same barges haul 950 tons of coal from docks located north of Morgantown. Also, the present locks are very short, permitting only the locking through of two barges at a time, whereas, if the contemplated improvements were made, six barges could be locked through at one time. Thus, it is obvious that consumers would make substantial savings in the transportation costs of coal loaded from docks on the upper reaches of the Monongahela if the improvements were made. We are at a very distinct competitive disadvantage with producers of similar quality coals who can and do ship their product in barges where they do load 950 tons in a barge.

The Monongahela River improvement program recommended by the Army engineers after exhaustive surveys had been made by them should be completed immediately in the interest of national defense and our economy as a whole. The mining out of the coals adjacent to the Monongahela River in Pennsylvania makes it imperative that consumers come to northern West Virginia for their coal supply where coal is more abundant. Thousands of acres of metallurgical, by-product, and steam coals are available for loading on the upper reaches of the Monongahela River by short rail haul and by truck transportation to river docks, provided that proper dams, locks, and channels are completed. Several mining companies have already spent millions of dollars installing new mines and river loading facilities on the Monongahela River, predicated on the natural assumption that within the very near future the river facilities would be improved so that our coal could economically be shipped on the river.

Gentlemen, the Army engineers have told you of the need of, and justification for, the improvements. I can only assure you that from a practical viewpoint gained from 8½ years' experience of shipping on the Monongahela River that these improvements should and must be made at once.

STATEMENT OF HUGH L. DAVIS, SECRETARY-TREASURER OF THE PROPELLER CLUB OF THE UNITED STATES, PORT OF PITTSBURGH, PITTSBURGH, PA.

The Propeller Club, Port of Pittsburgh, was organized February 1930. Our membership includes the leading coal, steel, sand, and gravel companies. We urge the continued improvement of the upper Monongahela River by the construction of a 9-foot channel to Fairmont, W. Va., replacing antiquated locks and dams Nos. 12, 13, 14, and 15 with two modern structures at Hildebrand and Opekiska.

The completion of the new Morgantown lock and dam is a great improvement in that area, but with the obsolete locks and dams at 12, 13, 14, and 15 neither the producer nor consumer can realize full economic benefits. It is not possible to load barges to capacity. Locks are not large enough to handle a standard Monongahela River tow of 6 barges and towboat. Barges which could be loaded with 900 to 1,000 tons of coal are now being loaded around 550 to 600 tons.

The demand for coal, especially metallurgical coal, for our steel mills in the Pittsburgh area, makes the Monongahela Valley above Morgantown of vital importance in our national economy. Mills and factories must go farther upstream for this vital coal. In the area where the obsolete locks and dams are located there is some 3,000,000,000 tons of coal either on the river or close enough to the river to be transported economically by barge to the steel mills in the lower valley.

Tonnage has shown a very sharp increase in the last 10 years. Lock No. 12 alone has increased from 45,000 tons to over 900,000 tons. Even lock No. 15 at the head of navigation has increased from 36,000 tons to 300,000 tons in 10 years. This could be doubled if a 9-foot project depth were available. This is a most valuable waterway; the small locks do not cope with present requirements.

For the above reasons we urge the Congress of the United States to appropriate sufficient funds for the construction of Hildebrand lock and dam.

Senator KILGORE. The only grounds on which the House conferees removed the $35,000 planning money estimate was because of its policy to not allow any planning money in the bill.

Senator YOUNG. They are opposed to any planning money.

Chairman MCKELLAR. That is, planning money for the United States.

Senator KILGORE. As we told you the other time, Senator, this river hauls more tonnage than the Panama Canal.

Chairman MCKELLAR. It does?

Senator KILGORE. That is a fact.

Chairman MCKELLAR. That is quite a large tonnage.

Senator KILGORE. And it costs less. It is all domestic tonnage.

Now, Mr. Chairman, we have one other witness who would like to file a statement.

Will you come forward, sir.

STATEMENT OF JOHN E. LOUGHLIN, JR., PITTSBURGH, PA., COUNSEL FOR THE NATIONAL STEEL CORP.

HILDEBRAND, OPEKISKA LOCKS AND DAMS, UPPER MONONGAHELA RIVER

Mr. LOUGHLIN. Mr. Chairman and gentlemen, my name is John E. Loughlin, Jr., Pittsburgh, Pa. I am counsel for the National Steel Corp.

Chairman MCKELLAR. Yes, sir.

Mr. LOUGHLIN. I would like at this time to present the written statements of Mr. D. L. McElroy, vice president of the Pittsburgh Consolidation Coal Co.; Mr. David Mathews, Jr., secretary-treasurer of the Pittsburgh Coal Institute of Pittsburgh, Pa.; and of Mr. W. H. Griffith, secretary of the national organization of Masters, Mates, and Pilots of America, Local 25, of Pittsburgh, Pa.

Chairman McKELLAR. Without objection, the statements will be included in the record.

(The statements referred to follow:)

NATIONAL ORGANIZATION,
MASTERS, MATES, AND PILOTS OF AMERICA, LOCAL NO. 25,
Pittsburgh, Pa., July 16, 1951.

Subject: Upper Monongahela improvement.

CHAIRMAN, COMMITTEE ON APPROPRIATIONS,
United States Senate, Washington, D. C.

DEAR SIR: My name is W. H. Griffith, secretary of the National Organization of Masters, Mates, and Pilots of America, Local No. 25, with headquarters at room No. 601, Wabash Building, Pittsburgh, Pa. Harbor No. 25 was organized before the turn of the last century as a fraternal organization for the purpose of working for practical navigation rules and regulations and the development of the western rivers for waterways transportation. In the last decade we have become affiliated with the American Federation of Labor and the railroad brotherhood and are the bargaining agents for all of the licensed deck officers on the Ohio River and tributaries and part of the Mississippi River. We wish to go on record before this committee as favoring the development of a 9-foot project depth in the Monongahela River above Morgantown lock and dam by the construction of a lock and dam at Hildebrand and another at Opekiska.

There is a heavy concentration of river traffic on the Monongahela River and our members are responsible for the safe delivery of some 40 million tons of cargo annually on that waterway. We are much concerned with a trend that has developed in recent years, whereby our pilots are being asked to go farther and farther upstream for tows of coal to be brought to the mills and factories along the lower river. Every deck officer must hold a Federal license over the waters which his vessels traverse, and more and more of our men are being requested by their employers to obtain licenses for the upper reaches of the Monongahela River. It is obvious that because the industry must now go to the hinterlands for raw materials, part of the upper valley is going to play a very important part in the welfare of our members as far as employment is concerned.

We are faced with the problem of moving thousands of tows annually in a waterway which is wholly inadequate to handle such traffic. The locks and dams are old and worn out and the channel is so narrow and shallow as to make navigation extremely difficult and hazardous. We are most fearful that, if we are asked to increase the number of tows to any great degree, there will be a serious break-down at the locks, which might result in severe damage or even death to crew members. Because barges can be only partially loaded in the project area, we realize that there must necessarily be an increase in traffic, with the resultant long delays at locks and congestions in the very narrow channels. It does not portray a very pretty picture for employment and working conditions for our members in the future.

The operations of the companies which own and operate towboats in the lower valley are based upon a standard Monongahela River tow of six barges and boat loaded with five to six thousand tons of cargo traveling in a channel of not less than 9 feet in depth. We have the trained personnel to handle this traffic and we stand on our record of continuous service and delivery of cargo with a minimum of delay, especially during World War II and the present emergency. We are not looking forward to being asked to continue that record on a waterway which is not equipped to handle the tonnage.

Locks in the upper river are only 182 feet long and 56 feet wide. This means that we can tow only four partially loaded barges and must endure triple lockings at each lock instead of going through with a full tow as we do in the lower river. The new lock and dam at Morgantown is a wonderful improvement, but we fail to see how much benefit can be deived from it when tows coming down or bound for points above cannot even be loaded to normal capacity. The new locks are 600 feet long and 84 feet wide, which provides a reasonable passage for boat and barges. If we are to continue to increase tonnages from this area similar locks must be provided upstream.

We believe that the economy of the industry in which we are employed depends greatly upon the development of the upper river for navigation and we believe it to be false economy for the Congress to hold back appropriations for this work. We are most certain that when these locks are built the upper valley will develop to a degree comparable to the lower Monongahela, which is the most economically

justifiable waterway in the world. There is no doubt in our minds that the entire area will benefit and that new business and industry will be attracted which will create prosperity for all concerned.

For these reasons, we urge that this committee recommend enough appropriation to begin construction of Hildebrand Dam.

W. H. GRIFFITH, *Secretary.*

STATEMENT OF DAVID MATHEWS, JR., SECRETARY-TREASURER OF THE PITTSBURGH COAL INSTITUTE, PITTSBURGH, PA.

The Pittsburgh Coal Exchange, organized in 1870, is a nonprofit association of common, contract, and private carriers by water, and related industries. Included in our membership are the leading coal, steel, sand and gravel, and manufactured goods producers in America. The exchange represents some 40 million tons of waterborne traffic annually in the Pittsburgh district.

We favor the continued improvement of the upper Monongahela River by the construction of a 9-foot channel to Fairmont, W. Va., by replacing antiquated locks and dams Nos. 12, 13, 14, and 15 with two modern structures at Hildebrand and Opekiska. The Congress of the United States has wisely caused to be built the first link in such a modern waterway by the construction of a new lock and dam located at Morgantown, W. Va. This has been a tremendous step in the right direction, but full economic benefits of the Morgantown Dam cannot be realized until the pools upstream are deepened to a comparable project depth. It is not now possible to load barges to anywhere near capacity in the upper pools. Nor are the locks of sufficient size to handle a standard Monongahela River tow consisting of six barges and towboat. The entire economy of the waterways industry is based upon such a standard tow and the gigantic steel-producing industry in the river valley has an operational procedure based upon the delivery of coal and other raw materials by such a method. Obviously, when it is not possible to load tows of regulation size to regulation depths in any part of a traffic route, the entire operational procedure is badly disrupted. Neither the producer nor the consumer can realize full economic benefits. Gasoline and petroleum barges headed for ports above the Morgantown pool must be partially unloaded before proceeding upstream. Coal barges from the upper pools can be loaded to only 600 tons maximum as against the usual 900 to 1,000 tons and the size of the tows must be reduced from the standard six barges to only four barges in order to pass through the small locks.

The ever-increasing demand for coal, especially metallurgical coal, by the heavy concentration of steel corporations and satellite industries in the Pittsburgh area causes the Monongahela Valley above Morgantown to be of vital importance in our national economy. Captive mines in the Pittsburgh area can no longer produce enough coal to meet the demand. Mills and factories must now reach farther and farther upstream for their coal supplies. In the project area there is some 3 billion tons of coal which is either on the river or close enough to the river to be transported economically by barge to the steel mills in the lower valley. This coal has been moving down the river and the tonnages are increasing rapidly in spite of old and worn-out locks and dams and a shallow channel. Tonnage passing through lock 12, the first of the locks which would be replaced by Hildebrand Dam, was only 45,000 tons in 1939, but in 10 years it has risen to more than 900,000 tons, or an increase of 2,000 percent. Even the lock at the head of navigation, lock 15, has shown a sharp rise in 10 years from 36,000 tons to 360,000 tons. With present equipment only and no new consumers, these tonnages could be doubled if a 9-foot project depth were available.

Potentially the tonnages are even greater. Our investigations and surveys reveal that the total annual tonnage on the new waterway would amount to some 5 million tons based on bona fide consumers in the lower valley who are ready and anxious to receive the tonnage. One company alone has 60 million tons of coal which has already begun to move through the old locks. There are 5 other companies on the river who will move some 4 million tons, 10 mines on the river who can move another 4 million tons, and 8 mines near enough to the river to use water transportation who could move another 6 million tons, making a potential tonnage of more than 15 million tons per year.

There has been considerable testimony during Department of the Army hearings and congressional hearings, especially during 1947–48, concerning the railroad-car shortage which prevents capacity production of coal in the project area. Testi-

money of coal producers and members of the mine workers revealed that mines had to be shut down from time to time because of the car shortage. The increase in demand for coal from this valley cannot help but make this shortage more acute. The river can alleviate the situation and at the same time provide a much lower cost transportation medium. By opening up this vast coal-producing area to river transportation, railroad cars could be released for the movement of coal from interior West Virginia to the north and northwest. Coal which moves to the Great Lakes from this area are either all-rail or combination rail-water can be moved to Pittsburgh by water and then via rail to Fair Harbor at a savings of from 20 to 30 cents per ton, and at the same time provide a much quicker turn-around time for rail cars in that commerce.

Certainly this is a most valuable waterway. Outmoded and antiquated locks and dams, far too small in size, cannot hope to cope with even present requirements, to say nothing of the future. Channel limitations forbid full use of present equipment and normal cargoes of coal and sand and gravel, and even prevent altogether the use of the larger type petroleum barges. We believe the above evidence to be adequate factual justification for the proposed project. The assured tonnage based upon consumer demand in the Pittsburgh area will develop river traffic in the project area to a degree comparable to the lower valley of the Monongahela River, which is the most economically justifiable waterway in existence, the locks averaging as much as 22 hours out of 24 in operation. This river has been the life-giving traffic artery of the gigantic steel-producing Pittsburgh area, so frequently referred to during the war as the "arsenal of democracy." It must continue to feed the demands of this vast industrial empire and it can be done only by opening the coal fields of the upper valley to a modern waterway facility. Moreover, the development of this area would bring to the upper valley new businesses, new services, new and greater employment, added revenue to all forms of transportation, a better balanced economy, and promote the general welfare of the entire area.

For the above reasons, we urge the Congress of the United States to appropriate sufficient funds for the construction of Hildebrand Dam, the next link in this vital traffic artery.

STATEMENT OF D. L. MCELROY, VICE PRESIDENT, PITTSBURGH CONSOLIDATION COAL CO.

I wish to endorse the proposed improvements on the Monongahela River between Morgantown and Fairmont due to the benefits these improvements will bring to our coal-mining operations in that area, the men employed at these mines, and the communities in which they are located. We have a total of eight operating coal mines that could be favorably affected by these improvements.

Five of these mines actually have their outlets on or adjacent to that part of the Monongahela River for which these improvements are proposed. These mines, with their daily capacity and coal reserves, are as follows:

Mine	Daily capacity	Reserve tons
Arkwright	12,000	60,000,000
Consol No. 93	4,000	25,000,000
Everettville	3,600	15,000,000
Booth	2,600	3,500,000
Consol No. 97	2,000	2,000,000

The Arkwright mine listed above already has river loading facilities which have recently been installed at considerable expense. The Consol No. 93 mine has river facilities which were installed in 1941 and which have been in continuous service since that time. This mine is located between Morgantown and Fairmont and is very much handicapped due to the fact that it is in the low pool section of the river, which allows us to get only one-half to two-thirds of full barge loading on all loadings at this point. Also, the speed of handling these barges through the locks in the upper stretches of the river is greatly reduced due to the small lock capacity. These features have handicapped river loading at this mine since 1941 and will continue to do so unless the proposed river improvements are made. The other 3 mines have no river-loading facilities and although serious consideration has been given to installing such facilities, no action has been taken. One of

the main drawbacks to the installation of these river-loading facilities has been the pool conditions in this section of the river.

In addition to the above five mines, we have the following mines which are within 4 miles or less of the river on good roads, which would permit trucking to river-loading facilities. As a matter of fact, trucking has been done to the river from three of these mines in major volumes. These three mines are:

Mine	Daily capacity	Reserve tons
Brock	3,600	10,000,000
Pursglove No. 8	4,000	15,000,000
Pursglove No. 15	6,500	20,000,000

You will note that the total daily capacity of these eight mines is 38,300 tons of coal per day, with a total reserve of 150,500,000 tons of coal. It is entirely feasible to increase these reserves if improved river loading facilities were available to make production from these properties more desirable.

Under the present river conditions, about half of this tonnage is under a severe handicap so far as river loading is concerned. The river conditions at these mines has been the reason that river movement of coal has not been developed from them.

In addition to above mines of our company, there are two mines of the National Coal Co. and South Union Coal Co., which are located directly on the river between Morgantown and Fairmont.

Flood Wall, Wheeling, W. Va.

Senator Kilgore. Now, Mr. Chairman, I would like to discuss the $50,000 budget estimate for planning which was disapproved by the House and the $425,000 unbudgeted estimate which the Corps of Engineers had approved to begin construction of the flood wall at Wheeling, W. Va. As to the latter item I hope to secure a timely budget estimate.

Chairman McKellar. All right, sir.

Senator Kilgore. I will call as the first witness Mr. Earl I. Runner, who is chairman of the Wheeling Planning Commission.

Chairman McKellar. Come forward, sir. Will you give your name and residence to the reporter?

STATEMENT OF EARL I. RUNNER, WHEELING, W. VA., CHAIRMAN OF THE WHEELING PLANNING COMMISSION

WHEELING-BENWOOD FLOOD CONTROL PROJECT

Mr. Runner. My name is Earl I. Runner. I am from Wheeling, W. Va.

I have here a statement outlining our program and it will take me about 3 minutes to read it. I would like to have the privilege of reading it.

Chairman McKellar. Surely.

Mr. Runner. I have been, and am now, in the retail drug business in Wheeling, having been so for the last 50 years, since 1901.

Appearing with me today in the interests of the Wheeling-Benwood flood protection are the following officials and citizens representing our communities:

Hon. Charles J. Schuck, mayor of the city of Wheeling; Mr. Charles P. Mead, solicitor for the city of Wheeling; Mr. Raphael Deegan, mayor of the city of Benwood; Mr. M. D. Ayres, chief engineer of the Wheeling Steel Corp.

Each of them will make a brief statement, if that is agreeable with the committee. We all appreciate the privilege of having you hear our problems.

FLOOD CONDITIONS

In order to graphically illustrate Wheeling-Benwood's need of flood protection we have prepared factual and photographic evidence of our problem, which we propose leaving with your committee. I have with me a map of the city of Wheeling showing the flooded areas and the various stages of floods. I also have with me a statement from our chamber of commerce giving factual figures as evidence of what floods mean to our valley.

PLANNING FUNDS

Chairman McKellar. Just one moment. Is there a budget estimate for this project?

Mr. Runner. To the best of my knowledge, it is not in this year's budget.

General Chorpening. The approved budget estimate is for $50,000 for planning on this project.

Chairman McKellar. And that went out?

General Chorpening. That went out in the House.

Chairman McKellar. All right, sir, go ahead.

Mr. Runner. Exhibit A is an album of photographs compiled by the Wheeling newspapers, which illustrate quickly and clearly the ravages and damages caused by floods in our valley.

Exhibit B is a statistical compilation of the loss in actual physical damages, the man-hours of work lost, the loss in vital production and other losses experienced by our cities during each flood.

Exhibit C is a topographical map of the city of Wheeling showing the section of our city affected by the various flood stages.

From a personal standpoint, I would say that inasmuch as two of our stores are located in the flooded area, my knowledge of the damages of the floods in our communities is based on first-hand knowledge from a citizen's as well as a retailer's standpoint.

LIST OF FLOODS AT WHEELING

The flood stage in Wheeling is 36 feet and I am attaching to this brief a list of floods since 1873 to 1950 and to date 1952. This shows that the Ohio River has overflowed its banks in the Wheeling area 56 times during these years.

In my memory the floods of March 1907, March 1913, March 1936, January 1937, December 1942, and March 1948, together, of course, with the one in January 1952 were the most outstanding and very damaging.

The flood of March 1907 reached the height of 50.1 feet, which is 14.8 feet above flood stage and was what was known as as "ice" flood. I can remember ice from this flood remaining in the park at Twelfth and Water Streets until the middle of May.

The March 28, 1913, flood reached a height of 51.1 feet and was known as the "mud" flood. In addition to the mud damage this flood was very damaging because it came up so rapidly that our people

were not able to protect their property. There were two floods in January and one in March 1913.

Wheeling also had three floods during the month of March 1936. The March 19 flood reached a height of 55.2 feet. The highest flood in our history. Projected on today's values a loss inflicted on our community would exceed $10,000,000 for this one flood alone.

The January 26, 1937, flood reached the height of 48.7 feet and again because of the rapidity with which it came up, together with the cold weather prevailing, caused a vast amount of damage as well as a vast amount of suffering from exposure and dislocation among our people.

The December 1942 flood reached a height of 51.5 feet with damage estimated at $8,500,000, but again the weather was cold thereby causing much sickness due to exposure. This flood would have reached 55.0 without reservoirs.

Any flood, at any time, interrupts and generally completely stops all manufacturing and business in the Wheeling-Benwood area and records in exhibit B show how seriously the January 1952 flood interferred with the production of defense materials in this area.

When I came into the Ohio Valley in 1901, Wheeling was a thriving, growing town and a veritable beehive of business activity and progress with a population of approximately 38,000, as Wheeling was ideally located from an industrial and transportation standpoint. In 1921, the suburbs of Wheeling were taken into Greater Wheeling making a grand total population of 57,872 at that time. Today the population of Greater Wheeling is 58,891.

NEED FOR FLOOD WALL RECOGNIZED

In 1920 the W. C. Knowles Co., city planning engineers of Pittsburgh, surveyed Wheeling and made recommendations for changes and improvements. One of these major plans was a flood wall to protect the Wheeling-Benwood area. At that time the population of Wheeling was approximately 40,000 people and a slogan adopted by our community was "140,000 population by 1940."

It is my firm conviction that had we had flood protection during these past 25 or 30 years Wheeling would have been a city of well over 100,000 population instead of being what it is today, a city of less than 60,000 population.

The cities of Wheeling and Benwood are situated on a long, narrow strip of ground between rugged hills or small rugged mountains and the Ohio River. Our five streets, namely; Water, Main, Market, Chapline, and parts of Eoff Street are fairly level. Many homes are built on the hills, but industry cannot operate on rugged hillsides.

WITHDRAWAL OF INDUSTRY

Wheeling's failure to grow in population has been due wholly to the withdrawal of industrial plants and other businesses from our flood-ridden areas in South Wheeling and in Benwood and the reluctance of any new industry to build a plant and start operations in a territory where they would be subject to the damage of periodic floods.

Today, those properties of Wheeling south of Wheeling Creek as well as the major part of Benwood, are greatly depreciated in value

due to damaging floods, and it is a safe prediction that with flood protection these areas would soon regain their true value.

Following the 1936 flood, steps were taken to plan flood protection for Wheeling and Benwood. A sample section of a concrete wall was constructed on Water Street by the United States Army engineers. At this time certain of our influential citizens objected to the appearance of the wall and claimed also that it would obstruct the view of the river and for these reasons as well as due to the fact that only that section north of Wheeling Creek would be protected, the project was at that time abandoned, as it was the opinion of the majority of our citizens that flood protection, to be really effective, should cover the Wheeling-Benwood area as a whole and not in part.

Shortly after the close of World War II steps were taken by our planning commission to revive the flood-protection project as well as other improvements in our city and in our valley. Hearings were held in Wheeling on February 12, 1948, by Col. Frank H. Faulkner, district engineer, Pittsburgh, Pa. At this hearing, Wheeling and Benwood presented a united desire for flood protection and immediately following the meeting application was made for planning funds through your committee.

Our communities deeply appreciate the fact that your committee passed favorably on their request as well as on additional requests for planning money so that at this date we are happy to report that the definite project plans of the Army Engineers have been completed by the district engineer and that officials and citizens of both communities are in full accord with the engineers on the plans subm tted.

LOCAL CITIES TO SHARE MAINTENANCE AND OPERATION COSTS

The councils of the cities of Wheeling and Benwood have unanimously accepted the engineer's plans and have authorized the issuance of the legal assurances obligating both communities to their share of the flood protection expense as estimated by the Army engineers, covering right of way costs, alteration and relocation costs as well as maintenance and operation costs after the project has been completed.

The maintenance operation will be a joint operation by the cities of Wheeling and Benwood. The commission or authority to perform these obligations, as assumed by both communities, has been approved and can be in legal operation almost immediately.

During the January 1952 flood and shortly prior to the time the river reached its crest of 44 feet, Hon. Harry S. Truman, the President of the United States, personally viewed the flooded area, including the Wheeling-Benwood area. Following this presidential inspection, the Wheeling-Benwood flood protection project was certified by the President as a project vital to the national defense effort.

In conclusion and as spokesman for the communities of Wheeling and Benwood, we respectfully request your consideration of our request that you include in this year's appropriation a sum of $500,000 to immediately start construction of the long delayed and long needed Wheeling-Benwood flood protection which was first authorized in 1937 and 1938. Thank you for listening to my statement.

Chairman McKellar. We are very much obliged to you.

Senator Kilgore. I would like to ask one question.

Chairman McKellar. Go ahead.

Senator Kilgore. We talk about Wheeling-Benwood. Actually the corporate limits of Benwood are up against the corporate limits of Wheeling? The two cities are right up against one another?

Mr. Runner. Half of one street is in Wheeling and half in Benwood.

Senator Kilgore. So it is one municipal area, really, although there are two municipalities in the area?

Mr. Runner. That is right.

Senator Kilgore. And your populations for Wheeling did not include Benwood, did they?

Mr. Runner. I am speaking of Wheeling alone.

Senator Neely. You reported that as the result of a recent flood there was damage done to the extent of $10 million or more. Do you happen to have any estimate of the total amount of damage that has been done by floods in the Wheeling-Benwood area since 1884?

Mr. Runner. I am afraid I do not have that.

Senator Neely. Would you care to have that in your remarks?

Mr. Runner. Yes, sir.

TOTAL ESTIMATED COST

Senator Neely. Let me supply that. The estimate, Mr. Chairman, is that since 1884 the flood damage to the Wheeling area exceeds a quarter of a billion dollars. The total cost to the Federal Government of completing the flood wall that is now under consideration would be only about $12,283,000, while the State of West Virginia would provide an additional sum of $10,860,000 to help complete the entire project.

Mr. Runner. I believe you are correct, Senator.

Chairman McKellar. Are there any other questions?

Senator Neely. In other words, Mr. Chairman, if there had been an expenditure for the construction of this flood wall as early as 1884 and it had cost at that time the $12 million plus that is now being asked for, the people of the United States as a whole would have saved about $200 million over and above the cost, $200 million of losses that they have sustained.

Chairman McKellar. I believe you are in favor of planning money?

Senator Neely. Very much in favor of the construction of this flood wall.

Senator Kilgore. May I say, Mr. Chairman, at this point that in Wheeling we have steel mills and in the Benwood area we have a big blast furnace, and every flood that comes over there, when it goes over the 36-foot mark, stops operations in those mills as well as in the other industries carried on around Wheeling. They are all stopped.

Now, does the chairman want to go ahead?

Chairman McKellar. Yes, sir.

Senator Neely. Mr. Chairman, this Wheeling flood wall project and the Monongahela project on which you have so graciously heard testimony this morning are both, as you doubtless know, on the President's approved list for 1952, for action.

CONSTRUCTION FUNDS DENIED

Chairman McKellar. I thought there was mention made that there was not a budget estimate for this project. Has there been a budget estimate made for this?

General Chorpening. Yes, sir; $50,000 for the Wheeling-Benwood project, for planning only.

Senator Kilgore. But how about the request to start construction with?

General Chorpening. We requested $425,000 over the ceiling to start construction. That was not allowed.

Senator Kilgore. That was not allowed by the Budget Bureau?

General Chorpening. That is correct.

Senator Kilgore. That would complete the plans and carry you on through 1953?

General Chorpening. The $425,000 that we requested was for construction. We asked for $50,000 for planning. The construction funds were not allowed by the Bureau of the Budget. The planning funds were allowed.

CONSIDERED WORTH-WHILE PROJECT

Senator Kilgore. And you estimated that the $425,000 for construction would be a working budget for 1953; is that right?

General Chorpening. We could make a start on the construction of the project with that sum.

Senator Kilgore. Now, is it not a fact, General, that a flood-wall proposition in Wheeling anchors very well. In other words, at one end it runs into a big railroad fill that protects it so that it is not really as expensive as some others would be where you would have to run clear around the city and back to the mountains?

General Chorpening. That is correct. This is a very worth-while project.

Senator Kilgore. So that the amount projected would enable more protection to be obtained in the Wheeling area than the same sum would anywhere else in the area?

General Chorpening. I am not familiar with all of them, but I can say that this is a very worth-while project. It has an excellent benefit-cost ratio as brought out by the statements of the damage that has been suffered and of what will be prevented if the flood wall is built.

Senator Kilgore. Mr. Chairman, I would like to put Mr. Ayers on the stand, if the Chairman will permit.

PLANNING FUNDS REQUEST BY PROJECT

Chairman McKellar. Before you do that, I would like to ask the engineers another question.

General, could you have one of your officers make a list of the planning money that you have asked for and which was denied by the House? Could you just make a compact list of it so that we will have it before us all at one time?

My secretary informs me that that is shown on these tables and that it won't be necessary to do that. I just wanted it in compact

form so that we could readily see what sum was being asked for planning and the items that were included.

General CHORPENING. We will be glad to make up such a compact list, Mr. Chairman.

Chairman MCKELLAR. I think it would be better to do that, if you do not mind.

General CHORPENING. All right, sir.

The President recommended that funds in the amount of $1,500,000 be provided for planning work on "Flood control, general" projects for fiscal year 1953. The House eliminated this amount. The allocation of the $1,500,000 is as follows:

	Approved budget estimate
Arkansas:	
Greers Ferry Reservoir	$50, 000
Table Rock Reservoir	100, 000
California: San Antonio and Chino Creeks	40, 000
District of Columbia: Anacostia River	50, 000
Hawaii: Kawainui Swamp	30, 000
Kansas: Strawn Reservoir	100, 000
Kentucky:	
Barbourville	25, 000
Jessamine Creek Reservoir	50, 000
Pineville	25, 000
Montana: Libby Reservoir	200, 000
New Mexico:	
Chamita Reservoir	85, 000
Rio Grande floodway	10, 000
New York:	
Batavia	20, 000
Monkey Run, Corning	25, 000
Wellsville	25, 000
Oklahoma: Keystone Reservoir	150, 000
Oregon: Hills Creek Reservoir	125, 000
Pennsylvania:	
Allentown	35, 000
Swoyerville-Forty Fort	30, 000
Texas: Dallas floodway	100, 000
Vermont: Victory Reservoir	75, 000
Virginia: Gathright and Falling Springs	100, 000
West Virginia: Wheeling-Benwood	50, 000
Total	1, 500, 000

Planning amounts for river and harbor projects in the President's budget for fiscal year 1953 but not included in the Civil Functions Appropriation Act as passed by the House of Representatives

	Amount
Howell Mill Shoals Dam, Ala	$100, 000
Upper Columbia lock and dam, Alabama and Georgia	75, 000
Warrior River lock and dam (new lock and dam 8), Alabama	75, 000
Arkansas River and Tributaries, Arkansas and Oklahoma (bank stabilization and channel rectification)	50, 000
Fernbank locks and dam (Markland site), Indiana, Kentucky, and Ohio	100, 000
Celina Dam, Ky	50, 000
Greenup locks and dam, Kentucky and Ohio	75, 000
Fort Peck Dam, Mont. (second power plant)	25, 000
New Cumberland lock and dam, West Virginia	100, 000
Hildebrand lock and dam, West Virginia	35, 000
Carthage Dam, Tenn	90, 000
McGee Bend Dam, Tex	25, 000
Total	800, 000

Chairman McKellar. Go ahead, Senator.

Senator Kilgore. I would like to have Mr. Ayers, the chief engineer of the Wheeling Steel Co., tell the committee what the effect of the floods has been on the steel industry.

Chairman McKellar. All right, sir; go ahead.

STATEMENT OF M. D. AYERS, CHIEF ENGINEER, WHEELING STEEL CORP.

WHEELING-BENWOOD FLOOD CONTROL PROJECT

Mr. Ayers. Mr. Chairman, I have here a prepared statement which I would like to present and file for the record.

Chairman McKellar. Without objection, that will be done.

Mr. Ayers. Briefly, the Benwood plant of the Wheeling Steel Corp. is located in Benwood in the area that will be protected by this flood wall. Last year this plant produced 390,000 tons of steel, ingot tons of steel. That was all made into pipe.

There are 2,566 men employed in this plant. I have here a record of the lost time and the loss in production and loss in man-hours because of floods since 1936. The figures add up to 909 hours of lost time, 39,012 tons of steel lost, and 729,654 man-hours lost.

In addition further expansion has taken place in this plant which will increase the productive capacity in the future so that future floods will result in more lost production than in the past.

If there are any questions, I will be glad to answer them.

Chairman McKellar. I believe not. Your statement will be placed in the record.

(The statement referred to follows:)

Flood Effect on Benwood Steel Plant

The Benwood plant of the Wheeling Steel Corp. is located in an area that will be protected from floods by the proposed new flood wall for Wheeling and Benwood, W. Va. This plant is a completely integrated steel-producing operation consisting of one blast furnace for the production of pig iron, two Bessemer converters for the production of steel, and the necessary rolling and finishing facilities required for converting the steel produced into pipe. The steel-ingot production of this plant in 1951 was 390,259 tons, and there are 2,566 men employed in this plant.

Listed below are the more serious floods that have occurred since January 1, 1936, the length of time that steel production was interrupted, and the loss in steel production and man-hours.

Date	Idle time in hours	Production loss in ingot tons	Man-hours lost
Jan. 29, 1952	24	1,200	26,063
Dec. 5, 1950	30	1,480	16,260
Apr. 15, 1948	52	2,350	30,623
Mar. 8, 1945	104	4,700	60,223
Dec. 31, 1942	83	4,002	66,035
Apr. 28, 1937	104	4,430	84,832
Jan. 23, 1937	272	11,300	238,497
Mar. 19, 1936	240	9,550	207,121
Total	909	39,012	729,654

Future floods, if protection is not provided, will result in greater losses than those shown above because of the increased production capacity that has been completed in recent years. Also, an additional project is under way which will make possible the processing of an additional 60,000 tons of steel ingots per year. This project is covered by certificate of necessity No. TA–12079 for $1,410,000 which has been issued by the Defense Production Administration, and the materials required by this project have been allocated by the National Production Authority.

WHEELING STEEL CORP.
M. D. AYERS, *Chief Engineer.*

Senator KILGORE. Mr. Chairman, may we proceed?

Chairman MCKELLAR. I am going to stay with you until we finish this.

Senator NEELY. I believe we should call Mayor Schuck.

Senator KILGORE. I would like to have the mayor step up.

Chairman MCKELLAR. Representative Staggers has submitted a statement regarding this project which will be placed in the record at this point.

(The statement referred to follows:)

STATEMENT OF HON. HARLEY O. STAGGERS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

Mr. Chairman, and members of the committee, again this year I want to add my plea in behalf of the appropriation to improve the navigation facilities on the Monongahela River. It is my privilege to represent Monongalia County in which is located some of these locks.

In my mind there is no question as to the merits of this project. Its completion is long overdue, and it should be concluded without further delay.

The Monongahela River flows through one of the most extensive and valuable coal fields in the world. The transportation of this coal is seriously handicapped by the lack of adequate and modern transportation facilities on this river. As you know, coal is one of our Nation's most important defense resources. It is needless for me to repeat its many uses in our defense efforts. The completion of this highly important waterway will open the channel to a greater reserve of this much-needed metallurgical coal.

Not only is this waterway needed for the transportation of coal but for the development of this rich area's vast natural resources.

It is essential to the defense program of the Nation to allow this mineral to flow to the steel mills as speedily as possible, which it cannot do now because we do not have the railroad facilities to carry it.

There are 25 mines above these locks which would be affected by the dams and locks and the potential of these mines, running something over 15,000,000 tons yearly of coal, could be gotten out if these locks are enlarged.

It is in the interest of the public welfare that this project be completed. The amount needed to finish this work will be comparatively small in comparison with what has already been spent. It will keep many miners working and the coal flowing to industry.

I believe it is an investment in America's future, not an outlay or expenditure of money. It is our responsibility to look into the future and not just at the present outlay.

We have been shortsighted on many things, especially on our ore products. If the world emergency continues we will be forced to turn to hydrogenation of coal and synthetic liquid fuels and 98 percent of our fuel reserve is in coal.

Senator KILGORE. Mr. Chairman, we would now like to introduce Mayor Schuck, of Wheeling, W. Va.

STATEMENT OF HON. CHARLES J. SCHUCK, MAYOR OF THE CITY OF WHEELING, W. VA.

WHEELING-BENWOOD FLOOD CONTROL PROJECT

Mr. SCHUCK. Mr. Chairman and gentlemen of the committee: My name is Charles J. Schuck. I happen to be mayor of the city of Wheeling, W. Va.

I have no written statement, Mr. Chairman; I do want to endorse, of course, everything that is contained in the statement that was filed by the chairman of our planning commission, and to assure you also that there is unanimity of action and accord all the way through this endeavor of obtaining this much-needed improvement which will save us considerable in losses sustained heretofore, amounting to millions and millions of dollars on the part of the city of Wheeling.

At the present time I think it can be fairly well said that the estimate furnished by Senator Neely here with reference to the amount of losses that have taken place in the last 30 or 40 years in the city of Wheeling, will reach, as was said, nearly a quarter of a billion dollars. We are fearful that if this is continued it will drive from our city industries which we have heretofore had and which are vital to the stability of this Nation.

Take, for instance, the big Wheeling Steel Co. and the blast furnaces that we have. The 1936 flood, as I remember and recall, put that blast furnance about 5 feet under water. It means not only the loss of time and hours of employment, but possibly the loss of an industry which would be very vital in time of need, so far as the Government could be concerned.

We have made provision by ordinance showing our willingness to do anything that the Government may ask us to do with reference to rights-of-way. We have had a survey made throughout the city, by lawyers of the city, in that part of the city which is affected by the floods, and against which the assessment must be made for our rights-of-way. That has all been done, and we are ready to move forward as quickly as is possible in order to bring about this much-needed improvement.

I am willing to answer any question that the chairman may see fit to ask me or may want to ask me, with reference to this work. We have given assurances to the Government, written assurances. We have passed the ordinances that are necessary. We have done everything on our part so far as the city and the municipal authorities are concerned that would be necessary to give the Government the assurance that there is unanimity of action between the city of Wheeling and the city of Benwood.

Chairman MCKELLAR. Well, I just want to say right here that as far as planning money is concerned, I think those funds ought to be put in. We ought to put an amendment in providing for that, and I expect so to vote. I rather think the committee will vote with me, but we cannot tell, until after the vote is taken.

Senator KILGORE. May I ask the mayor another question, Mr. Chairman?

Chairman MCKELLAR. Yes, air.

Senator KILGORE. Is it not a fact that the State of West Virginia is to contribute to this flood-wall project and to help with the total cost?

Mr. SCHUCK. Yes, sir; I think that is true. The city must provide the rights-of-way, and then part of the cost will be paid by the State. We are hopeful that that will be done, in order to make even a better improvement than was anticipated in the first instance.

FLOOD WALL

Senator KILGORE. In other words, is it not a fact that the plan is that the State, on the question of the flood-wall construction, will contribute to the total cost of building the flood-wall?

Senator NEELY. To the extent of $10,000,000.

Senator KILGORE. Of course, it will cost that much in addition to the Federal Government's contribution, so that actually the State and the city will provide about a 50–50 split in the cost of building the flood wall, the split being between the Federal Government on the one hand and the State and municipal government on the other hand.

Mr. SCHUCK. May I also state this one fact; that now, by reason of the decision of the United States Supreme Court, with reference to the pollution of the Ohio River, Wheeling must begin very shortly the construction of an entirely new sewage system which will cost us between $6,000,000 and $7,000,000, and it is said that there are certain parts of that work that can be done at the time that the flood wall is being constructed and if that is done the Government and the city of Wheeling will save between $600,000 and $700,000. That is another feature that enters into the matter that perhaps is worthy of some consideration. I am willing to answer any questions that I can.

Chairman MCKELLAR. Are there any further questions?

Senator NEELY. No, sir.

Chairman MCKELLAR. We are very much obliged to you.

Senator NEELY. Our next witness is Mayor Raphael Deegan of Benwood.

Chairman MCKELLAR. All right, Mr. Mayor, come forward, please.

STATEMENT OF HON. RAPHAEL DEEGAN, MAYOR OF THE CITY OF BENWOOD, W. VA.

WHEELING-BENWOOD FLOOD CONTROL PROJECT

Mr. DEEGAN. Mr. Senator, my name is Raphael Deegan, and I am the mayor of the city of Benwood. I think this matter has been covered very well by the representatives from Wheeling.

As was mentioned by the Senator a minute ago, we are the town that abuts Wheeling, and the flood wall must be a continuous flood wall.

I have here some statements on the flood losses, and also some photographs which I would like to leave for the use of the committee.

Chairman MCKELLAR. Leave the pictures with the secretary, and give your statement to the stenographer. Your statement will be included in the record.

Senator KILGORE. Is it not a fact that every time we have a flood we have to move the post office?

Mr. DEEGAN. That is right. Recently we had the post office moved to the second floor.

Chairman MCKELLAR. Let me understand that.

Mr. DEEGAN. The construction of a flood wall would stop that.

Chairman MCKELLAR. You mean to say that when you have these floods, the post-office building is taken away and you have to get a new one built? Is that what you are saying?

Senator KILGORE. There is not any place to build one outside of the flooded area. The water will inundate the first floor, and they have to operate the post office out of the second floor of the building.

Chairman MCKELLAR. Well, that must be very disconcerting.

We are very much obliged to you. Are there any further questions, gentlemen?

(The following statement was supplied:)

SUMMARY OF THE FLOOD DAMAGE TO THE CITY OF BENWOOD FROM 1936 TO AND INCLUDING 1952

Estimated damage to the city and citizens of Benwood during and after the 1936 flood amounted to $500,000. This damage was due to the loss of property, loss of work in the steel mills, coal mines, railroads, factories, stores, etc.

Seventeen pieces of property were damaged to such an extent that they had to be torn down and some fell down after this flood.

1937

In 1937 there were three floods, January 23, January 26, and April 27. Estimated damage to the city and citizens of Benwood during and after these three floods amounted to approximately $35,000.

1940

Estimated damage to the city and citizens of Benwood during and after the flood of April 21, 1940, amounted to approximately $10,000, due to loss of work, property, etc.

1942–43

Estimated damage to the city and citizens of Benwood during and after the flood the latter part of December 1942 and the first part of January 1943 was approximately $15,000, due to loss of work, property, etc. While the citizens were trying to rehabilitate themselves the weather turned to zero causing additional hardship and loss. There was also several deaths caused by this flood.

1945

Estimated damage to the city and citizens of Benwood during and after the flood of March 1945 amounted to approximately $25,000, due to loss of work, property, sickness, etc.

1948

Estimated damage to the city and citizens of Benwood during and after the flood of March 1948 was approximately $15,000, loss of work, property, sickness, etc.

1950

Estimated damage to the city and citizens of Benwood during and after the flood of December 1950 amounted to approximately $6,000.

1952

Estimated damage to the city and citizens of Benwood during and after the flood of January 28, 1952, amounted to approximately $15,000, due to loss of work, property, sickness, etc.

During and after all of these floods assistance was given by the American Red Cross, American Legion, which cost them thousands of dollars.

Estimated loss to the city and citizens of Benwood amounted to approximately $621,000.

Great assistance was also rendered by the State road commission, gratis.

Oral J. Skeen, warden of the State Penitentiary, sent the prisoners who gave great assistance, gratis.

If we had not received help from the State road commission and the prisoners the cost would be much higher.

Senator NEELY. Are there any other written statements that anyone wishes to have inserted in the record on this subject now?

I believe the mayor of Wheeling wishes to make a further statement.

Chairman MCKELLAR. All right, sir.

Mr. SCHUCK. Mr. Chairman, the pictures which we have provided for the use of the committee show specifically a goodly number of bank buildings, for instance, that were under water, during the period of the flood. They suffered, of course, an enormous loss.

Senator KILGORE. I would like next to call Mr. Charles P. Mead, who is solicitor of the city of Wheeling.

Chairman MCKELLAR. All right, Mr. Mead.

STATEMENT OF CHARLES P. MEAD, SOLICITOR, CITY OF WHEELING, W. VA.

CITY COOPERATION ASSURED

Mr. MEAD. Mr. Chairman, Senator Kilgore, Senator Neely, and Mayor Schuck have covered the matter thoroughly. I would merely like to comment on the city's ability and readiness and preparedness to proceed, so far as its share is concerned. We appreciate being here, and we do not want to belabor the proceeding or the record with further testimony.

Chairman MCKELLAR. I believe that is good news to the engineers, General Chorpening, because they would like a little assistance from the local authorities. I think we all ought to help in every way that we can.

Senator KILGORE. I believe that will conclude our presentation, Mr. Chairman.

Chairman MCKELLAR. If that is all, Senator Kerr, we will be glad to hear from you.

I want to say before you proceed that we have a meeting over in the House which you may wish to attend.

STATEMENT OF HON. ROBERT S. KERR, A UNITED STATES SENATOR FROM THE STATE OF OKLAHOMA

OKLAHOMA PROJECTS

Senator KERR. Mr. Chairman, I was called and told that you were going to go right on through.

Chairman MCKELLAR. All right, sir, we will do that, but if you would like, we can recess.

Senator KERR. I would like to stay with this, Mr. Chairman. I would like permission to place my complete statement in the record.

Chairman MCKELLAR. That will be done.

Senator KERR. I would then like to just briefly summarize my statement for the record, if I may. I believe we may still have time to go over to the meeting, if the chairman would like to.

Now, I have been before this committee on many occasions, in connection with most of these projects, and this committee has put most of them in previous bills, with the help of this great chairman and other members of this committee.

I would like to call attention to the fact that I am just as much for the mutual-security program as anybody, but I believe that in view of the fact that we are spending such vast sums of money to develop power, water, and soil resources, in countries of our allies, the time has come for us to step up and say that we are not going to neglect our own any longer.

Chairman McKellar. You will get a hearty "Amen" on that from me.

Oklahoma City Floodway

I would like to call the chairman's special attention again to our great Oklahoma City floodway which this committee has authorized and the Congress has authorized. The appropriation has been made and frozen.

AUTHORIZATION OF PROJECT

The project was authorized in 1946, and modified in 1950, immediately after which Oklahoma City had a bond issue and has available the sum of $2,775,000 which is required for the local participation in the project.

APPROPRIATIONS TO DATE

Now, to date the Congress has appropriated $600,000, and I think most of that sum has been frozen and it has not been possible to spend it. Our situation down there in Oklahoma City is such that this project should be built. It has long been authorized. Money has been appropriated by the Congress. A great amount has been provided by the local people for their participation.

To me, Mr. Chairman, it is nothing short of reprehensible negligence that we do not go forward with this project in accordance with the previous action of this committee and the Congress.

Chairman McKellar. Senator, as I recall, you had the same question up in previous years.

Senator Kerr. And you put it in.

Chairman McKellar. But it got put out in conference.

Senator Kerr. Practically everything, in fact, everything in this statement has been taken care of by this committee and by the Congress. We hope you will do so again.

Chairman McKellar. Thank you very much.

Senator Kerr. I would like to introduce to the chairman Mr. Morris B. Cunningham, who is the water engineer of Oklahoma City, who will give you more of the details of this project, Mr. Chairman, but with the understanding that if the chairman wants to go to the joint session, Mr. Cunningham can come back later.

Chairman McKellar. No, sir; I have arranged for another engagement this afternoon. We are trying to finish up.

Senator Kerr. I understand that.

I would also like you to later hear one of Oklahoma's greatest water authorities, Mr. Graham, who through the years has earned your respect and who through the years has been one of your most devoted

admirers, even though he is in Oklahoma; Mr. N. R. Graham, who is going to say a few words to the chairman.

(The prepared statement submitted follows:)

STATEMENT OF SENATOR ROBERT S. KERR

I appreciate the opportunity to appear before this committee in behalf of projects in and affecting the State of Oklahoma. I realize that in these times of vast military expenditures and high taxes, it is not popular to seek additional expenditure of Federal funds. I am convinced that each of the projects for which I seek appropriations will create new values, will eliminate destruction and waste, and will not in any way interfere with the defense effort. Thus, money so expended is an investment that will pay good dividends, even on banker standards. In fact, I am convinced that these projects are necessary structures for preparedness.

I want it clearly understood by this committee that I am in favor of appropriations for the Mutual Security Agency. A great Oklahoman, Dr. Henry G. Bennett, gave his life in the service of the point-4 program. I am convinced that we must help our foreign allies to maintain a strong and growing economy. We are doing this for our own protection, but, at the same time, can we afford not to develop and expand our own economy?

I want to remind you how many United States dollars we are spending to develop the power, water, and soil resources of foreign countries, perhaps more than we are spending for like purposes here at home. Direct appropriations for such projects from ECA funds in the fiscal year 1951 amounted to $244,575,000 but, in addition, almost $4 billion has been set aside in a drawing account for such projects, called counterpart funds (see table I, pp. 16–18).

I also learned, through the Commissioner of Reclamation, that the Republic of Mexico is investing almost 12 percent of her present annual appropriation for projects to develop her water and soil resources, compared to about 0.3 of 1 percent that we, in the United States, are using for similar projects.

I have recently been interested in two documents which have come across my desk. One of them is entitled "Congress Spends Billions For French Seaways" by Richard B. Frost (copyright 1952 by Inside Michigan Magazine). When I turned the pages and looked at the pictures I found that we were aiding in the financing of over a billion dollars each on two projects, through ECA and other foreign aid, for hydroelectric and navigation projects in Switzerland, Italy, and France. I am not able to determine how much of the total cost will be borne by the United States.

The other publication which attracted my attention was one by the Department of Agriculture with the title "The Fifth Plate." When I turned the pages and began to read, I was informed that for every four people sitting down to a meal in 1950 there will be another person at the table in 1975. Agriculture's job is to fill the fifth plate. It can be done, but it will require a vast program of conservation, reclamation and flood control now. 1975 is less than 25 years away. Should we—can we afford to build for so short a time? What of 50 years—75 or 100 years? (See exhibit, p. 19).

As I said before, I am not opposed to the expenditure of United States dollars to help provide needed projects that are necessary to the economic recovery of our foreign allies, but I cannot help but wonder if our own people are not equally or even more entitled to projects which will produce new opportunities for them and which will strengthen our economy. We cannot have strong outposts without strong home bases.

The two huge hydroelectric-navigation projects described in the pamphlet, Congress Spends Billions for French Seaways, are in the French Alps on the Rhone and the Rhine Rivers.

The Rhone River project, when completed, will consist of 22 dams, 46 power stations which will generate 13 billion kilowatt-hours of power, and make 354 miles of the river navigable. Three sections of the project are now well toward completion. They are the Genissiat, estimated cost $314.2 million; Douzere-Mondragon, estimated cost $228.5 million; and Montelimar, estimated cost $142.8 million. The three total $685.5 million.

The Rhine River between Basle and Strasbourg is the area in which a second project is under way. Seven power plants and a large canal are under construction. This project will produce 6½ billion kilowatt-hours of electric power. A 9-mile length of canal will require 24 million cubic yards of excavation and placing

870 thousand cubic yards of concrete. The cost is estimated to be in excess of $1 billion.

I have no doubt that these are great worth-while projects, probably well justified from the standpoint of the economy of these European countries which they will serve. However, no Member of Congress, to my knowledge, has had an opportunity to examine these projects under the usual procedure.

There is no doubt that the economy of France depends upon more and abundant electric energy and better transportation, but, I wish to point out to you that the problems that we are facing in Oklahoma are due to the lack of an abundance of electric energy, and to high freight rates. The same could be said of many other areas of the United States.

I wish to make some comparison between the Rhone River and some of the rivers with which we are acquainted here in the United States. The Rhone River has a drainage area of 38,000 square miles. The population of this area is 5 million people. The estimated cost of development is in excess of $1 billion.

The Tennessee River has a drainage area of 41,000 square miles. There are about 3 million people living in this area and, although this is the most highly developed river system in America, we have spent approximately $790 million on its improvement.

The great Central Valley of California has a drainage area of approximately 50,000 square miles which consists of the San Joaquin and the Sacramento. The population of this valley is in excess of 3 million people. We are all familiar with the high state of development, and this project will cost some place in the neighborhood of $900 million when fully developed, in accordance with existing plans.

The Alabama-Coosa River has a drainage area of 23,000 square miles. There are approximately 1½ million people living there. The cost of the full plan of development is estimated at $500 million.

The Rio Grande has a drainage area of 185,000 square miles, 80,000 of which are in Mexico. Plans for development call for an expenditure of $235 million.

The Arkansas-White Rivers have a drainage area of 160,000 square miles. There are about 4½ million people living in this basin. To date flood-control works have cost about $300 million. To fully develop the entire valley for flood control, hydroelectric power, navigation, municipal and industrial water supplies, will require an additional $600 million.

We cannot help but wonder if the expenditure of money to build the economy of these areas at home is not likewise important to the mobilization of the free world.

The following item recently appeared in the Washington Post:

"Moscow, May 5.—Russia launched a bond drive today to raise 30,000,000,000 rubles to finance the construction of dams, canals, and hydroelectric installations. It was the seventh such drive announced by the Soviet Union since the end of World War II.

"Under the Soviet 'lottery loan' arrangement, 100-ruble bonds may be purchased on the installment plan by paying a certain percentage of wages each month for 1 year. The bonds mature in 20 years. But interest is paid exclusively to winners of lotteries held four times annually." (Russia values the ruble at 25 cents for foreign exchange purposes).

Our civil works program in this country is rapidly coming to a halt because of "freeze orders" and "no new starts" policies. If the job of developing our soil and water resources was completed, then only could such a policy be justified. If we are to produce munitions for war, feed our expanding population, and provide armament for our allies, then we must stop the annual devastation by floods and drouth, increase the productivity of our agricultural plant, and produce more kilowatt-hours of hydroelectric energy. We should not be dragging our feet on these programs.

The installed flood-control program under the Corps of Engineers now protects 26 million acres from flooding but we still suffer losses from floods amounting to one-half a billion dollars annually. The progress that has been made is good, but we cannot stop until we have eliminated as much of that half-billion dollar annual flood toll as is economically possible.

The crisis caused by the great floods on the mighty Missouri emphasizes the necessity to abandon present executive and congressional appropriation policies of "freezes," "no new starts" and "no planning." We must adopt in their stead a policy of making available annual appropriations to construct public works which will prevent the recurrence of economic losses which we suffer in some section of our country every year and in almost every section of our country some years.

As long as we consider appropriations for resources development an outright expenditure, instead of an investment which will return sound dividends, we will allow the chaos of flood and drought to deprive us of the benefits of our resources.

Preventable flood damage is a waste that should not be tolerated more than any other destruction of property. In addition to the extreme loss that has just been encountered by property owners in the Missouri Valley from the Dakotas to the Mississippi, there was the suffering and fear which accompanies such disasters. The damage wrought will never be entirely repaired: the production lost from farm and factory will never be regained; memories will never be erased. Only because the hearts of American people are sympathetic toward their less fortunate neighbors is the American Red Cross and other charitable agencies able to partially relieve the suffering, disease, and misery which always follows in the wake of such events.

Many of us consciously or unconsciously consider the catastrophe as one far away that does not affect us personally, but next week, next month, or next year, a like calamity may befall our own people—the people in our State or our city.

Last year it was the great flood of the Kaw. In 1948 it was the Vanport flood. In 1943 it was the flood on the Arkansas and its tributaries, which caused the people of my own State to suffer. In between these great floods are literally hundreds of smaller floods, all causing a heavy toll of life and property.

In making requests for funds, I am mindful of the fact that it is requiring more capital outlay to carry on this Government than at any other time in our history, but I am also aware that to entirely curtail the development of our natural resources and to allow the continuance of preventable flood ravage in this country at a time when all of our resources are needed may be the most expensive expenditure that we do not make.

In Oklahoma and the area served by the Southwestern Power Administration, the estimated load in kilowatts will increase from 4 million in December 1951 to 6 million in 1954. The hydroelectric capacity will increase from 335,000 to 695,000 kilowatts and, under the program of "no new starts," cannot be increased beyond this figure. Therefore, if the load increases proportionately, by 1957 it will be approximately 8 million kilowatts, and by 1960 it will be 10 million kilowatts. By 1957 we will be short 1 million kilowatts of hydroelectric power for peaking purposes, and by 1960, 2½ million kilowatts.

From the standpoint of providing power for defense, industry, and domestic needs in my State, every authorized project containing hydroelectric generating capacity should be under construction now. If this committee would provide the necessary funds in this year's bill to initiate construction, it would require at least 4 years before any new power could be made available. (See table II, p. 20, and graph, p. 21.)

CONSTRUCTION

I wish to discuss specific projects for which construction funds are immediately needed. Some of these projects are not contained in the budget.

1. *Oklahoma City floodway.*—The Oklahoma City floodway project was authorized by the Flood Control Act of July 24, 1946, and modified by the Flood Control Act of May 17, 1950. Immediately after the modifying act, Oklahoma City voted bonds and now has available $2,775,000 which is required for the local participation in the project. At the time of voting this bond issue, they voted a total of $36 million in bonds, over two-thirds of which was for projects which are in or affected by the Oklahoma City floodway. To date, Congress has appropriated $600,000 for this project. The Federal Government has expended approximately $260,000 on preconstruction work.

I urgently request this committee to provide funds for the initiation of construction of this project on the basis of its connection with the present program of urban highway development now well under way, the military road connecting Tinker Field with the interstate road system, and other projects which will be explained by Mr. M. B. Cunningham, representing Oklahoma City. I believe that $3 million should be made available for the construction of this project now. That amount could be economically expended. I hope that the committee will see fit to provide construction funds inasmuch as Oklahoma City is now acquiring rights-of-way and the initial construction will not require the use of strategic materials.

2. *Bradens Bend (bank stabilization from Wilsons Rock to Fort Smith, Ark.), Le Flore County, Okla.*—You will recall that last year Senator McClellan and I appeared jointly before this committee, requesting funds for the initiation of bank stabilization on this and other projects on the Arkansas River. Last year funds

were provided to initiate construction and I am advised that the Army engineers now have construction works under way to stabilize the banks of the Arkansas River below Tulsa, Okla., including the Bradens Bend project, on an emergency basis.

The testimony last year brought out the necessity of these projects, constructed on the basis of beginning where there were permanent tie-ins in order to eliminate the hazard of losing the installed works. I understand that there is an item in the budget, and in the House bill, for $2 million for the continuation of this work on an emergency basis. After consulting with the State officials of Oklahoma and Arkansas, I am convinced that this work should be carried on at a greater rate than will be possible if only $2 million is appropriated, which is only one-half of the amount appropriated last year. It has been reliably estimated that a minimum of $6 million should be appropriated in order that the work being accomplished might be of a permanent nature and the hazard of losing what has been done avoided.

I urgently request that the committee give consideration to these facts when the appropriation is made.

3. *Fort Gibson Reservoir.*—This project is nearing completion. There has been appropriated approximately $41 million. It will require approximately $2,257,500 to complete the project, including $1,500,000 for the Muskogee, Okla., municipal water line, a relocation project. There seems to be no apparent reason for delaying the completion of this project, including the construction of the Muskogee water conduit. I urge that it be included in this year's appropriation. The House bill contains only $525,000. This is less than one-third of the amount the Oklahoma Planning and Resources Board expects to spend there developing a State park.

4. *Tenkiller Ferry Reservoir.*—There has been appropriated approximately $20 million on this project. It is nearing completion. $2,400,000 will complete the project and put it in operation. I hope that the committee will find it possible to provide the funds to complete this project in this appropriation. Power from this and the Fort Gibson projects has already been scheduled for defense plants in the Southwest.

5. *Denison Reservoir.*—This is one of the great projects in the United States. It has saved literally millions of dollars in flood damages in the States of Oklahoma, Texas, Arkansas, and Louisiana. Because of the apparent shortage of hydroelectric power, the third and last 35,000-kilowatt generator should be installed as soon as possible. In addition to providing the much-needed electric power, it would also increase the income of the project by approximately $500,000 a year. The estimated cost of purchasing and installing this generator is $975,000.

I hope that the committee can see fit to provide funds for this project.

6. *Oologah Reservoir.*—The Oologah Reservoir was authorized in the Flood Control Act of 1838 and modified by the Flood Control Act of July 24, 1946. To date Congress has appropriated approximately $500,000 for this project. Last year the President requested $1,500,000 for the initiation of construction of this project in a supplemental appropriations request after the great flood in July.

The Army engineers have acquired the dam site and have built an access construction road. The landowners in the reservoir area have had their property values frozen and should have an opportunity to dispose of their lands to the Government.

Some controversy arose over the operation of the reservoir in connection with the production of oil. Testimony by Mr. N. R. Graham, vice chairman of the Oklahoma Planning and Resources Board, and Governor Murray's personal representative, will indicate that this matter has been worked out, provided that the reservoir can be operated at elevation 600 feet above mean sea level until such time as the oil can be depleted.

I am advised that the Oologah project is not contained in the budget this year. If it was needed last year, it is needed now. I urgently request that this project be given $1,500,000 for initiation of construction and acquisition of reservoir lands.

7. *Toronto Reservoir.*—This reservoir is on the Verdigris River in Kansas a few miles above the Oklahoma-Kansas line.

This project was authorized by the Flood Control Act of August 18, 1941. It likewise was contained in the supplemental budget request of 1952 after the great flood. At that time the President sought $3 million to initiate construction. Like the Oologah project, if it was needed then, it is needed now, and I believe that funds should be made available to initiate construction now.

PLANNING

I am aware of the prohibition placed in the appropriations bill last year relative to planning funds but there are projects in Oklahoma and the neighboring State of Kansas for which it seems necessary to request definite project planning funds.

1. *Arkansas-White-Red Basins Interagency Committee.*—I am advised that there is contained in the budget a request of $1,200,000 for the Arkansas-White-Red Basins Interagency Committee. Every cent of that amount is needed.

I wish to advise you of the wonderful work that is being accomplished by this committee. First, I want to congratulate the Corps of Engineers as the chairman agency of the AWRBIAC for accomplishments thus far. There are eight States and six Federal agencies which are working together on a cooperative basis to prepare an integrated coordinated report on the development of the natural resources of this vast area drained by the Arkansas-White-Red River Basins.

There have been many difficulties encountered and solved. There will be others, I am sure, but it has been demonstrated, beyond any question, that the Federal agencies interested in the development of the natural resources of this country can work together and that they can do so in cooperation with the State agencies having similar responsibilities. I wish it were possible for each member of this committee to attend one of the work sessions and see how problems are thoroughly investigated and how conclusions are reached.

The Corps of Engineers, being the chairman agency, have the greatest responsibility. They maintain an office and a task force in Tulsa, Okla. The funds requested, I assure you, will be wisely expended. The action of the House in reducing this item will result in years of delay, but no savings in money.

Upon being advised of the action of the House of Representatives in passing the civil functions bill on April 2, I asked the Chief of Engineers to give me the effect of the House action on the proposed planning funds for the Arkansas-White-Red Basins Interagency Committee. Attached is a statement and a table from the Chief of Engineers (pp. 22–24). It is evident that the House action can have but one effect upon the work of the committee and that is to delay, postpone, and practically stop the present survey.

I urge this committee to reinstate the item contained in the budget for the Arkansas-White-Red Basins Interagency Committee and earmark it for that purpose.

2. *Keystone Reservoir.*—This is a multiple-purpose project. It will provide flood control, hydroelectric power, and river regulation. I am advised that money is contained in the budget for the planning of this project. I urgently request that a minimum of $150,000 be provided to continue the definite project report.

On January 9, 1952, I addressed a letter to the chairman of this committee seeking planning funds for four projects, including the Keystone Dam. These were Keystone, Short Mountain, Dardanelle, and Table Rock. I have appended a copy of that letter hereto and would like for it to appear in the record. (See pp. 25–26.)

3. *Eufaula Reservoir.*—Except for the "freeze" and "no new starts" this project would have been well under way. I urgently request that $200,000 be made available for definite project plans.

4. *Strawn Reservoir.*—This reservoir is on the Neosho River in Kansas, upstream from the Oklahoma-Kansas line. It is one of the projects which was included last year for planning money. I hope that the committee will see fit to provide an additional $100,000 this year to carry that project to a stage where construction can be commenced next year.

LOCAL PROTECTION PROJECTS

Presently there is a need for the commencement of construction of a number of local protection projects in my State. They are listed in the table on page 27. In numerous instances local communities have provided the required monetary participation and in some instances have actually purchased rights-of-way, but, because of present policies, these projects cannot be started. Most of them would not require any critical materials. If projects of this category could be started throughout the country, they would furnish an appropriate backlog for maintaining engineering organizations in the various district offices.

I am sure that this committee is well aware that we have reached a point in the civil functions of the Corps of Engineers where a few extremely large projects are taking the vast majority of the funds available for carrying on construction.

In the budget, six projects (three in the Missouri Basin and three in the Columbia Basin) accounted for 30 percent of the total request. In the House bill, two river and harbor projects on the Columbia River account for 60 percent of the appropriation, and two projects on the Missouri account for 30 percent of the total allowed for flood control. I do not criticize the value of the large projects but to limit construction funds to a few projects in the United States places many worthy local projects at a very decided disadvantage.

It seems to me that some consideration might well be given to providing a floor for civil functions appropriations which would provide a distribution of projects and make possible carrying on the development of our water resources throughout the United States.

I am satisfied that this committee is well aware of the need for this program. I realize that you have a difficult task, and I thank you for your indulgence, but, if at all possible, free us from this strangle hold and give us the necessary money for these much-needed, worth-while projects.

TABLE I.—*Soil- and water-resources development projects in foreign countries, financed by ECA, fiscal year 1951*

Denmark: 60,000-kilowatt power	$5,070,000
France:	
100,000-kilowatt power	20,930,000
Niger irrigation	1,400,000
Germany (Austria): Inn River hydro	540,000
Greece:	
Athens electric	3,873,000
68,000-kilowatt power	10,972,000
Transmission	1,337,000
40,000-kilowatt hydro	1,491,000
Transmission	1,196,000
5,000-kilowatt hydro	487,000
Transmission	83,000
Engineering and technical assistance	2,000,000
Iceland: Power facilities	5,065,000
Italy:	
Genoa, 50,000 kilowatts	6,000,000
Palermo, 60,000 kilowatts	6,300,000
Venice, 50,000 kilowatts	6,558,000
Genoa, 50,000 kilowatts	6,169,000
Turin, 50,000 kilowatts	6,215,000
Rome, 60,000 kilowatts	6,110,000
Naples, 60,000 kilowatts	6,143,000
Placenza, 100,000 kilowatts	9,323,000
Naples, 30,000 kilowatts	3,652,000
Tavazzano, 120,000 kilowatts	2,680,000
Turin, 30,000 kilowatts	3,517,000
Netherlands: Noord-Brabrandt, 124,000 kilowatts	3,372,000
Portugal: Irrigation and power	2,100,000
Turkey:	
Zonguldak power	15,020,000
Waterways harbors	5,324,000
Engineering and surveys	660,000
Total	181,133,000

TABLE I.—*Soil- and water-resources development projects in foreign countries, financed by ECA, fiscal year 1951*—Continued

ADDITIONAL UNDER OVERSEAS DEVELOPMENT FUND, ECA, NOT INCLUDED IN ABOVE

United Kingdom	$1,235,000
Somaliland, reservoir; Maurilius, agricultural project; Jamaica, irrigation; Cyprus, erosion; Malta, power; North Borneo, wharves; Tapakuma, irrigation.	
France	4,116,000
Algerian, soil conservation; Morocco, irrigation; Djerada, water supply; Casablanca, power; Morocco, stock water and irrigation; Morocco, municipal water; Casablanca, water distribution, Massa, irrigation; Algeria, power transmission; Bone and Oran, power and water supply; Niger Valley, irrigation; Brozzaville, water supply; Couala, water supply.	
Netherlands	1,448,000
Eysvoogel, land reclamation.	
Belgian Congo	1,718,000
Soil survey, waterway, power.	
Portugal	663,000
Total	9,180,000

ADDITIONAL PROJECTS APPROVED IN FAR EAST (FISCAL YEAR 1951)

Burma, 30 projects	$7,775,000
Formosa, 21 projects	8,675,000
Indochina, 29 projects	6,818,000
Indonesian Republic, 10 projects	6,026,000
Philippines, 25 projects	8,243,000
Thailand, 18 projects	8,406,000
China, 1 project	303,000
Korea, 6 projects	8,016,000
Total	54,262,000
Total, fiscal year 1951	244,575,000

The above does not include any funds from ECA Counterpart Fund as follows:

ECA COUNTERPART FUNDS AVAILABLE (FOR AGRICULTURAL PRODUCTION, RECLAMATION, TRANSPORTATION, IRRIGATION, POWER, WATER, WATERWAYS AND HARBORS, COMMUNICATIONS) AS OF MAY 31, 1951, BY COUNTRY

	Total withdrawn (dollar equivalents) (millions of dollars)
Austria	118.0
Belgium-Luxemburg	2.0
Denmark	26.9
France	1,009.4
Germany (Federated Republic)	229.1
Greece	54.8
Italy	521.5
Netherlands	180.6
Iceland	.9
Portugal	15.4
Turkey	34.2
Trieste	25.3
United Kingdom	1.2
Total counterpart funds used for agricultural, reclamation, transportation, irrigation, power, etc	3,961.7

TABLE II.—*Reservoir projects in area of Southwestern Power Administration in operation, under construction, and recommended for immediate construction*

	Installed capacity, kilowatts
Projects in operation:	
Denison, Oklahoma and Texas	70,000
Narrows, Arkansas	17,000
Norfork, Arkansas	70,000
Subtotal	157,000
Projects under construction:	
Blakely Mountain, Arkansas	75,000
Bull Shoals, Arkansas	160,000
Fort Gibson, Oklahoma	49,200
Tenkiller Ferry, Oklahoma	34,000
Whitney, Texas	30,000
Subtotal	348,200
Projects recommended for construction:	
Dardanelle, Arkansas	100,000
Keystone, Oklahoma	45,000
Short Mountain, Oklahoma	100,000
Table Rock, Missouri	84,000
McGee Bend, Texas	28,800
Denison, third unit	35,000
Subtotal	392,800
Total	898,000

STATEMENT CONCERNING EFFECT OF HOUSE APPROPRIATIONS COMMITTEE ACTION ON WORK OF THE ARKANSAS-WHITE-RED INTERAGENCY COMMITTEE

The funds required for continuation by the Corps of Engineers of the comprehensive investigation of the Arkansas-White-Red River Basins during fiscal year 1953 are estimated at $1,200,000. This amount is shown on line three of the attached "Analysis of House Appropriation Committee action on survey report and related program in civil functions bill for fiscal year 1953."

On April 2, 1952, the House of Representatives passed the civil functions bill essentially as proposed by the Appropriations Committee. The enclosed analysis shows that the amount of $1,215,000 contained in the bill for flood-control examinations, surveys, and contingencies would be applicable to a total budget estimate for these functions of $4,965,000. The amount contained in the bill for river-and-harbor preliminary examinations and surveys is $2,735,000, of which $2,000,000 was earmarked in the committee report on the bill for the construction of fish facilities in the Pacific Northwest and $150,000 for beach-erosion studies, leaving a balance of $485,000 which is to be applied to the general river and harbor-survey program for which the budget estimate was $1,185,000. The total amount in the bill for combined flood-control and river-and-harbor survey and related programs not specifically earmarked amounts, therefore, to $1,700,000, which must be applied to a total budget estimate for these functions of $6,150,000. Of this total of $6,150,000, the survey program is estimated at $4,500,000, and the related activities representing continual operational requirements such as stream-gaging stations, flood investigations, etc., are estimated at $1,650,000. It is obvious that the allowance of $1,700,000 cannot be applied to items totaling $6,150,000 without eliminating or seriously reducing the work contemplated for the fiscal year 1953.

The $400,000 appropriated for continuation of this study during fiscal year 1952 was far short of the estimated requirement for making satisfactory progress thereon. Consequently, there is little likelihood that more than a token amount of funds now available will be carried over into next fiscal year.

Therefore, the probability of meeting the scheduled date for completion of the comprehensive report on the Arkansas-White-Red River Basins is remote.

Analysis of House Appropriations Committee action on survey report and related program in civil functions bill for fiscal year 1953, Mar. 27, 1952

Line	Function and item	Flood control		River and harbor		Combined total	
		Budget estimate	Allowed by committee	Budget estimate	Allowed by committee	Budget estimate	Allowed by committee
1	General survey program	$1,600,000		$600,000		$2,200,000	
2	Two special surveys:						
3	Arkansas-White-Red	1,000,000		200,000		1,200,000	
4	New England-New York	800,000		300,000		1,100,000	
5	Subtotal	1,800,000		500,000		2,300,000	
6	Operation and miscellaneous:						
7	Stream-gaging stations	425,000		70,000		495,000	
8	Rainfall stations	500,000				500,000	
9	Storm studies	500,000				500,000	
10	Flood investigations	100,000				100,000	
11	Fish and wildlife studies	40,000		15,000		55,000	
12	Subtotal, operation	1,565,000		85,000		1,650,000	
13	Total, surveys and operation	4,965,000	$1,215,000	1,185,000	$485,000	6,150,000	$1,700,000
14	Beach erosion studies			150,000	150,000	150,000	150,000
15	Planning, authorized projects	1,500,000	0	800,000	0	2,300,000	0
16	Construction, fish facilities			4,256,865	2,000,000	4,256,865	2,000,000
17	Subtotal, earmarked funds	1,500,000	0	5,206,865	2,150,000	6,706,865	2,150,000
18	Grand total (committee report p. 15)	6,465,000	1,215,000	6,391,865	2,635,000	12,856,865	3,850,000

JANUARY 9, 1952.

Hon. KENNETH MCKELLAR,
Chairman, Senate Appropriations Committee, United States Senate.

DEAR MR. CHAIRMAN: I wish to call your attention to the immediate need for providing planning funds for hydroelectric power projects in Oklahoma, Missouri, and Arkansas. There has been no construction initiated in the past 4 years on any Federal hydroelectric project in the Southwest.

Recognizing the need for additional hydroelectric generation which will keep pace with the rapidly expanding demand for peaking power in the area, I strongly recommend an immediate start on the construction of the Keystone Dam on the Arkansas River near Tulsa (66,000 kilowatts), the Short Mountain Dam on the Arkansas River near Sallisaw, Okla. (110,000 kilowatts), the Dardanelle Dam on the Arkansas River near Russellville, Ark. (120,000 kilowatts), and the Table Rock Dam on the White River near Branson, Mo. (84,000 kilowatts). These projects, if started now, will furnish an additional 380,000 kilowatts of power by 1957.

Information furnished me by the Southwestern Power Administration and the Federal Power Commission indicates that the power load growth in the Southwest leaves no doubt that this additional generation will be very much in demand by 1957. It will be to the benefit of the entire Nation if plans can be made now for the earliest possible initiation of construction of these projects. It is my opinion that the Keystone, Short Mountain, and Dardanelle Dams should be constructed in that order, beginning with the upstream dam and working downstream.

I am sure you are fully aware that the private and public power projects in the Southwest are now fully integrated and that contractual arrangements have been made between the Southwestern Power Administration and private utilities for the marketing of all the power in the area in such a way as to not duplicate facilities and at the same time make power available under the terms of the various acts of Congress relative to the distribution of public power.

You are also familiar with recent developments in the Southwest which indicate that the need for additional power is rapidly increasing. I am advised that certain areas within region V (Federal Power Commission) already are showing signs of a critical power shortage. The private utility companies now have under construction steam generating plants totaling many millions of dollars and

it is apparent that the need of the peaking power from the hydroelectric installations at Federal dam projects is necessary for a well-rounded power program.

According to the Federal Power Commission, the peak load for August 1951 was 5,224,000 kilowatts. It is estimated that by August 1954 the peak load will reach 7,123,000 kilowatts. By the time the four hydroelectric projects, abovementioned, can possibly be constructed and placed in operation, the peak load of the region can easily be expected to be 10,500,000 kilowatts or more.

Presently hydroelectric projects are being completed in the area which will add 350,000 kilowatts to the present systems, but it is obvious that the additional 380,000 kilowatts which can be secured from the construction of the Keystone, Short Mountain, Dardanelle, and Table Rock Reservoirs will be badly needed by the time they can be completed.

Therefore, in light of these circumstances, I urgently request your cooperation in securing adequate funds for the planning of these projects in the 1953 appropriations bill. I am quite sure that the need for additional power in Oklahoma and the Southwest makes each of these projects eligible for planning funds under the criteria which has been set up by the President and the Bureau of the Budget.

With all good wishes, I am

Sincerely yours,

ROBERT S. KERR.

TABLE III.—*Local protection projects*

Levees:	Local flood control:
Fort Gibson bottoms	Cherokee, Okla.
Dirty Creek bottom	Enid, Okla.
Big Skin-Camp Creek bottom	Kingfisher, Okla.
Moffett bottom	Okmulgee, Okla.
Tucker Lake bottom	Guthrie, Okla.
Braden bottom	Waurika, Okla.
	Blackwell, Okla.

STATEMENT OF MORRISON B. CUNNINGHAM, SUPERINTENDENT AND ENGINEER OF THE CITY OF OKLAHOMA CITY WATER DEPARTMENT

OKLAHOMA CITY FLOODWAY PROJECT

Mr. CUNNINGHAM. Mr. Chairman, my name is Morrison B. Cunningham. I am the superintendent and engineer of the city water department of Oklahoma City. The mayor and the city council have asked that I express to you our sincere appreciation for making it possible for us to present this information on the Oklahoma City floodway project which, of course, is of great concern to us, as we are sure it is to you.

Chairman MCKELLAR. Yes, sir.

Mr. CUNNINGHAM. We are requesting that you consider making funds available to begin the first unit of construction. We think that it would assist rather than detract from our defense effort by providing this protection.

The people of Oklahoma City have for many years been developing a master plan which is centered around this entire project.

We have a map here which we thought would help to save time by giving you a little better understanding of the project. You will note that the proposed floodway is outlined in blue, going through the city, a distance of some 15 miles.

About a third of the city lies south of the river and about two-thirds of the city lies north of the river. Our business district is located right here in this area [indicating].

Now, if I may summarize the vital factors that go to make up what we feel is the situation, let me say that 90 percent of the investment that is in this area to be protected from flood is connected in one way or another with our defense effort.

FLOOD PROTECTION

There are some 16,000 people who live there and who have been there over a period of years. A great many of the employed people living in that area are employed at Tinker Field, or one of the other defense projects that we have. We have our five railroads that go across this area, and also located here are two of our passenger depots, two freight depots, two roundhouses, and miles of their tracks. Those facilities are all affected when we have these floods.

There are 33 trucking firms that have their supply depots in the area.

The utilities have great investments there.

I would like to call your attention to several facts that are tied in very closely with this project. One is that there is activity at this time. Senator Kerr told you that we had voted $2,775,000 for the rights-of-way. We are rapidly getting the rights-of-way on the river project. That incidentally, provides rights-of-way for additional miles of our highway system, which will be located in this area, and across the floodway project.

NO BUDGET ESTIMATE

Chairman McKellar. Did you make an application to the Bureau of the Budget or to the House?

Mr. Cunningham. Yes, sir.

Chairman McKellar. There is no estimate for it, is there?

General Chorpening. There is no budget estimate for this project for this year Mr. Chairman.

Chairman McKellar. Do you mind telling us why, if it has already been started, why is there no estimate for it?

General Chorpening. It goes back, sir, to the instructions to us from the Bureau of the Budget on what projects we might consider in making our estimates. Then, as the Senator knows, we had a very severe ceiling imposed upon us that we had to work within in making our recommendations to the Bureau of the Budget.

Chairman McKellar. All right. Go ahead, Mr. Cunningham.

Mr. Cunningham. Recently, an additional amount of money was voted, some $7,000,000, to vitalize our long-range planning of our road system. There are 52 miles of roads which that plan takes in. It will involve Highways 62 and 77 and 66 and 270, together with a number of State highways. Much of that work is under construction at the present time, such as through here, which is the Highway 66 bypass and the connection to the Tulsa Toll Road. The rights-of-way on the rest of these roads are now in process of being purchased or have already been purchased.

Of great importance also is the new road to Tinker Field, which you can see here on this photograph of the business district of Oklahoma City.

Here is the new project and here is the new road, with the rights-of-way already under contract at this time. Thse are some of our outlying cities, like Midwest City, which adjoins Tinker Field.

PROJECT PROGRAMED

Chairman McKellar. Has an appropriation for the roadway system been allowed by the House this year or not?

Mr. Cunningham. The plan has already been programed.

Chairman McKellar. It is already programed, but has there been a request for funds for construction of the roads?

Mr. Cunningham. The surveys have been completed and most of the rights-of-way have already been purchased.

We thank you, Mr. Chairman, for your indulgence.

The reason I point this out, Mr. Chairman, is because the purchases of the rights-of-way and the construction of this river project makes it possible for us to have this connection here [indicating]. Otherwise it could not be made.

Chairman McKellar. Could you leave that map with the committee?

Mr. Cunningham. We would be very happy to leave it.

Chairman McKellar. If you can spare it, I would like to have you leave it.

Mr. Cunningham. Certainly, Mr. Chairman.

Now, we have some pictures here, which indicate the oil-field development. There are 53 producing wells, 5 refineries, and the oil tank farms.

PROJECT DESCRIBED

Now, this picture does not show what we would call a flood down there, because it is just enough to overflow the banks, but we have had four floods of major consequence since 1943. Last year the flood averaged about 10,000 second-feet which is just barely over the bank.

This picture shows the land to be purchased, and it shows the damage. Here is the producing oil field right here, and this is the outlet section, in this area.

There is a new oil field located in here [indicating].

This picture is section No. 2, which is merely located in this area through here on the map. It shows the flooded conditions. It shows section No. 3 and shows within the area to be protected the new $4,500,000 sewage-treatment plant and asphalt plant, and any number of producing oil wells that you can see from close examination.

This picture shows the area just a little further east in through the central part of the city. A number of producing oil wells can be seen and some of the tank farms.

This picture shows the area further to the west and shows some of the residential sections and a lot of the industry in the downtown area.

This picture shows section No. 6 which is immediately south and contains the high-value area. You can see the railroad yards, the two cottonseed compressing mills, two highways, and the trucking companies, and also the large number of intensive commercial developments in that area. That section will be protected by this construction.

This picture shows the central part of the city, and shows three of our main roads into the south section of the city and one of our major

parks and some of our housing units, all of which will be protected by this project.

This is another picture, showing the area further to the east and showing a steel-fabricating plant, a trailer factory, the trucking firms, the freight depots, and some of the switching yards for the railroads. Those are just a few of the areas to be protected.

Our whole plan in Oklahoma City has been built around the day when we can get this project built, in order to avoid having two bridges, one where the river exists at the present time. It has been very expensive, and, of course, the longer the project is postponed, the more expensive it becomes.

The city has appropriated the funds I mentioned; this is a partnership deal, sir. This project has been approved under the flood-control acts. Oklahoma City has carried out all the requirements, so far as we know. The city has voted the money to purchase the rights-of-way which are rapidly coming into our hands. We can turn over any portion or all of the rights-of-way within 90 days' notice.

The whole of our city activities are built around the day when this project will be constructed. Since the first unit would be largely nothing but earthwork, there would be practically no critical material involved. We do earnestly hope that you can consider our request, sir. Thank you.

Chairman McKellar. We are very much obliged to you, sir.

(The statement submitted follows:)

STATEMENT OF MORRISON B. CUNNINGHAM

Gentlemen, my name is Morrison B. Cunningham. I am superintendent and engineer of the city of Oklahoma City Water Department. My appearance here is formally authorized by the mayor and city council of Oklahoma City. I appreciate your courtesy in permitting me to present to you information concerning the Oklahoma City floodway project, and respectfully request that you consider making funds available to begin construction on the first unit of this project.

Construction of the first unit of this project would consist largely of earth excavation, and would have a material effect on relieving some of the flood damage. Such construction would, we believe, assist the defense program rather than detract from it. Major damage is likely due to construction in this area to be protected. This is evidence of the confidence and belief that the project will be built soon.

This project has received public approval by vote of the people on May 9, 1950, at which time $2,775,000 was made available for the procurement of all the necessary right-of-way, and for local participation in the first unit of construction, which we are requesting at this time. This right-of-way will be available within 90 days.

SUMMARY OF THE PROJECT

The project has been designated by the Corps of Engineers as "Oklahoma City floodway—North Canadian River"—it runs through Oklahoma City (bisects the city) and areas adjacent thereto, extending east and west of the city proper—two-thirds of the city being on the north side of the river, and one-third on the south side. The type of construction is an excavated channel. Surplus excavation will be used for making fills for proposed urban and express highways, and for filling the low areas in the flood plain, making them usable for residential, business and industrial purposes, and park beautification.

The length of the floodway project is 14 miles.

The Oklahoma City floodway project is one of a system of four flood-control projects on the North Canadian River in Oklahoma, of which two reservoir projects at Canton and Fort Supply—upstream from Oklahoma City—have been completed; and the fourth is the authorized Optima Reservoir still further upstream.

VALUE OF PROPERTY TO BE PROTECTED

The value of property in the flood plain which the Oklahoma City floodway project will protect is as follows—public property $14,750,000, and private property $60,310,000; making a total of all essential public and privately owned facilities $75,060,000.

It is called to your attention that 90 percent of all the facilities and services within the flood-plain areas are essential to the national defense program.

(Detailed more fully in supplement attached.)

SUMMARY OF MAJOR BENEFITS TO BE SECURED BY THE PROTECTION AGAINST FLOODS, AND THE CONSTRUCTION OF OKLAHOMA CITY FLOODWAY PROJECT

A. It will vitalize the construction of 52 miles of expressways provided for in the Oklahoma City and Oklahoma County Master Plan; 12 miles of these expressways are within the area to be protected from flooding, and includes the new expressway from Tinker Field to Oklahoma City.

B. The new State fairgrounds, recently purchased by the city, and for the construction of which $4,750,000 in funds were provided through the bond issue of May 9, 1950, requires flood protection and drainage in certain portions. This the floodway will provide. The new State fairgrounds is designed with modern, fireproof buildings, for year-round use. It will be a great center for educational purposes, such as 4–H and FFA, and is closely tied in with the Oklahoma A. & M. College demonstration farm.

C. The present State fairgrounds, which is presently being converted into a Negro vocational high school and other Negro public facilities, is now inundated at times of flood. This flood protection will expand usable portions of the grounds and help improve facilities for the Negro population of Oklahoma City.

D. This project will protect lives and property. Fourteen lives have been lost by flood. The average annual flood loss, without floodway, totals $407,910.

E. Two thousand acres of land adjoining the floodway will be filled and reclaimed with earth wasted from canal excavation. A total of 5,000 acres will be protected from floods, and made available for general use.

F. Under the recent Oklahoma County bond issue, and the 1950 Oklahoma City bond issue, the master plan of the county highway system has been established and fixed as to location.

This master plan provides for the vast development of the Oklahoma City metropolitan area, and much of Oklahoma County, thereby making it available for zoning for residences, business, and industry. This development awaits only the assurance of the construction of the Oklahoma City floodway project. We are already acquiring right-of-way for these expressways.

G. Public health will be improved through the elimination of low areas where disease-carrying insects multiply by the improvement of areas of substantial sanitation.

H. Family rescue and rehabilitation in low river-bottom areas, now a major problem at times of flood and flood threat, will be largely eliminated.

I. Elimination of juvenile and adult delinquency, a major portion of which now has its source in the substandard river-bottom area, will be forwarded through stimulation to better homes and healthier surroundings, and beautification by construction of parks and recreational facilities in areas now subject to flood.

J. Public and private utilities cost of construction and maintenance will be lowered by confining the North Canadian River to a definite location and width through lesser flood-protection requirements; and by shortening river crossings. Rail, highway, and street crossings will be similarly benefited. Storm sewer construction will be greatly benefited by the construction of lateral drainage as a part of the floodway construction.

K. Permanent new public school construction will be warranted with funds now available in sections of the flood plain where the present flood threat makes such construction impracticable.

General.—A program of general improvement, beautification, and utilization is now being planned throughout the North Canadian River area. The floodway is basic to this area. Its construction will permit utilization of some 2,000 acres now largely waste, and will further give flood protection to some 5,000 acres covering areas of residential, commercial, and industrial development now subject to possible flooding.

Plans for local participation through bond issue are based upon assumption that the Federal authorization of funds, and appropriation of sufficient funds,

will be made at once for construction of the outlet section of the Oklahoma City floodway project.

On behalf of the city of Oklahoma City I want to express our appreciation for your consideration, and permitting this statement to be presented.

Respectfully,

MORRISON B. CUNNINGHAM,
Superintendent and Engineer, Oklahoma City Water Department.

Attachments.

SUPPLEMENT NO. 1

THE OKLAHOMA CITY FLOODWAY—ESSENTIAL INDUSTRIES AND SERVICES WHICH WILL RECEIVE PROTECTION FROM FLOOD DAMAGE THROUGH CONSTRUCTION OF THE OKLAHOMA CITY FLOODWAY

NOTE.—The term "essential" is given those operations which will directly support a national defense program, or which are of a type easily converted to such. The flood plain referred to herein is that of the greatest flood of record (1923).

SUMMATION

1. Based upon dollar value of existing facilities, 90 percent of all facilities and services within the flood plain area are essential to a national defense program.

2. Upon the basis of services necessary to the city as a whole, and therefore to any part of a national defense program in which this city may engage, a very large proportion of the essential services and operations in the flood plain are absolutely indispensable. Particularly is this true with reference to rail and truck transportation services which are highly centralized in this area; and to utilities which serve all or large portions of this city. Disruption of these services would be disastrous to the entire city.

3. Cost of the project lies largely in earth movement, land for right-of-way, and general labor, rather than in materials. Use of critical materials such as steel and concrete will be at a minimum in proportion to the size of the project. Consequently, benefits in ratio to critical materials is high.

The following detail supports these conclusions.

1. GENERAL DESCRIPTION OF RIVER AREA AND DEVELOPMENTS THEREIN

The North Canadian River flows eastward directly through Oklahoma City. Approximately two-thirds of city development lies north of the river—one-third south thereof.

Center of the downtown business district lies approximately three-quarters mile from the nearest point on the river.

Record flood plain ranges from 1 to 1¾ miles in width through the city, reaching to within one-quarter mile of the center of the business district.

Flood damage begins with flow of 8,000 cubic feet per second. At 16,000 cubic feet per second damage is widespread and a large proportion of operations within the area are halted, streets overflowed, and hundreds of families must be moved out of the area.

Greatest flood of record (1923) produced a flow of more than 100,000 cubic feet per second. This flood, modified by reservoirs now in place at Canton (60 miles upstream) and at Fort Supply (140 miles upstream) would produce 20,000 cubic feet per second flow at Oklahoma City. Engineers are agreed that it is possible for as great a flood to develop below these protective works. Local floods up to 42,000 cubic feet per second are of record, such as June 1932.

Authorized floodway channel will carry 45,000 cubic feet per second.

Although there are large areas of waste or unused land in the flood plain, nevertheless many of the city's most important and essential industries and services—both public and private—lie therein.

Summary of the essential poblicly and privately owned facilities located in the area

Residential housing.—Residences in the flood plain house approximately 14,000 people. Lower residential areas are inundated beginning at 8,000 cubic feet per second; most of the areas with 16,000 cubic feet per second flood. Approximately half of these people who are employed work for business or industry essential to the war effort, and many of them are employed at Tinker Field.

Employment.—Total employment in this area, subject to floods, is estimated to be 6,000. Employed in essential industries and services, public and private,

is estimated to be 3,000. Floods of 16,000 cubic feet per second seriously damages and stops work within the area.

All railroads serving the city traverse the river area. Four of the five railroads have their central facilities—passenger and freight depots, yards, two roundhouses, and miles of general and industrial trackage—within the flood plain.

On May 9, 1950, the people of Oklahoma City voted a $36,000,000 bond issue, of which more than one-third of the money will be used for the construction of community facilities within the area to be protected by the floodway.

These improvements consist of:

Fire department	$600, 000
Floodway project	2, 775, 000
Library	822, 000
Parks and parkways	2, 200, 000
The park strip will extend along most of the right-of-way on the proposed floodway.	
Police department	329, 000
Sanitary sewers	4, 540, 000
Storm sewers	2, 710, 000
Street improvements	6, 500, 000
Traffic control	200, 000
Airports	600, 000
Fairgrounds	4, 750, 000
Water department	10, 048, 000
Total funds available	10, 974, 000

More than one-third of this investment within area to be protected.

On December 11, 1951, the country and Oklahoma City voted $7,427,000 to provide the right-of-way necessary to carry out the master plan for 52 miles of expressways around and through Oklahoma City. Funds include purchase of the right-of-way for the new military road leading from Oklahoma City to Tinker Field, also several miles of county highways.

In this area are bridges carrying United States Highways Nos. 62, 77 (military designations) 270 and 277; and State Highways Nos. 3, 41, and 74.

Thirty-three intra- and inter-state trucking firms have terminals in the flood-plain area.

A number of the heaviest electric-power lines of the city, and its largest central substation are in the area.

The 2-mile width of the Oklahoma City oil field is traversed by the river area. Therein are 65 producing wells, 4 crude-oil storage-tank farms, 5 refineries, and a very large number of pipelines—both trunk and gathering lines—handling both crude oil and natural gas.

State fairgrounds

The relocation of the present State fairgrounds was approved by vote of the people when $4,750,000 was made available for construction on a section of land now owned by the city. Modern, fireproof buildings for year-round use, new all-purpose arena seating 12,500 people—great center for 4–H and FFA—closely tied in with the Oklahoma A. & M. College demonstration farm. The new area is located entirely within the area to be protected from floods by the Oklahoma floodway project.

The present State fairgrounds are now in the process of being converted to a Negro vocational high school, and other Negro public facilities, also subject to inundation at times of flood. Construction of the floorway project will expand the usable portion of this area and materially help facilities for the Negro population.

Summarizing the city bond issue of $36,000,000 specific items are called to your attention for the purpose of showing the importance of this area to be protected by the floodway project. More than one-third of the total bond-issue funds are to be spent within the area to be protected. This money represents public improvements and does not include money being spent by other units of the Government, such as for Federal highways, and for county and State highways and bridges. In addition, large amounts of privately owned utilities are making investments, such as railroads, gas and electric utilities, telephone and telegraph companies, private residences, business and industry, particularly oil production and refining.

The largest of the city's sewage-disposal plants, recently completed at a cost of $4,500,000, and 7 sanitary sewer lines, 18 to 60 inches in size, are in the area.

Ten city water mains lie therein—other large lines urgently needed will be constructed soon.

Other major facilities within the area include:
17 telephone and telegraph lines
1 radio transmitter station and tower (KTOK)
cotton compress with 35,000-bale storage capacity
1 large flour mill
2 cottonseed-crushing plants
1 commercial airport, heavily used by 1-engine and light 2-engine aircraft
1 steel fabricating plant
1 steel compress
2 large asphalt-mixing plants
1 large trailer manufacturing and numerous equipment, industrial, and manufacturing plants

These and other essential public and private facilities are classified and have estimated value of land, improvements, equipment, and stocks.

A more detailed summary (1–A) of these improvements is included as a supplement.

2. CLASSIFICATION AND VALUE OF PUBLIC AND PRIVATE UTILITIES, INDUSTRIES, AND SERVICES LOCATED WITH THE FLOOD PLAIN

Public-owned facilities:	
Public utilities, included in estimated value of	$8,550,000
10 water lines, 7 large sanitary sewer lines, recently constructed $4,500,000 sewage disposal plant, various storm sewers.	
Highways, bridges, and streets, included in estimated value of	5,700,000
Includes highways and bridges carrying designated United States Military Highways Nos. 62 and 77; also United States Highways Nos. 270 and 277; State Highways and bridges on Nos. 3, 41, and 74; 9 other local street and bridge crossings.	
Educational facilities, estimated value	500,000
Includes 6 white and negro public schools.	
Total estimated value of publicly owned facilities (public parks values at $2,000,000 not included)	14,750,000
Privately owned facilities and services:	
Utilities, estimated value	1,850,000
Includes 17 power lines, largest electric substation in city, natural gas distributing lines.	
Transportation, estimated value	9,000,000
2 railroad passenger stations (one for 2 lines), 3 railroad freight depots, 3 railroad yards, 2 roundhouses, city bus company shops, bus storage yards, general headquarters, 33 interstate and intrastate truck-line terminals, and offices, shops, etc., 1 commercial airport.	
Communication facilities, estimated value [1]	600,000
17 local and long-distance telephone and telegraph lines, 1 radio transmitter station and tower.	
Oil wells, pipelines, storage, refining, estimated value	5,000,000
Includes 65 producing oil wells, 20 crude-oil trunk and gathering lines, 36 natural gas gathering and trunk lines, 4 oil-storage tank "farms", 5 refineries, producing and pumping equipment.	
Essential manufacturing and processing operations,[2] estimated value (see attached list)	29,135,000
Includes metal fabricators and processors, oil field and refinery equipment and supplies, construction materials, meat and other foods, livestock feeds, industrial and agricultural chemicals, truck body and trailer manufacturers, machine shop products, mill and other woodworking operations, vegetable oil processors, and others capable of converting to essential production.	

[1] U. S. Post Office Department is in process of purchasing land for $3,300,000 structure in the flood plain where it plans to construct facility where all incoming and outgoing mail will be received, worked, and dispatched.

[2] Essential industries constitute over 90 percent of all industry within the flood plain.

2. CLASSIFICATION AND VALUE OF PUBLIC AND PRIVATE UTILITIES, INDUSTRIES AND SERVICES LOCATED WITH THE FLOOD PLAIN—Continued

Privately owned facilities and services—Continued	
Essential commercial operations,[3] estimated value	$2,500,000
Includes industrial and construction machinery suppliers, construction materials distributors and warehousers, cold-storage plants, food wholesalers and warehousers, farm equipment suppliers, scrap metal assemblers, construction firm material and equipment yards, specialized services to essential industries, etc.	
Residential housing, population—estimated value of residential properties and household goods	10,000,000
Residences in the flood plain house approximately 14,000 people. Lower residential areas are inundated with 12,000 cubic feet per second flood; all areas with 16,000 cubic feet per second flood. Recent construction has added to that reported by engineers.	
Farm lands and production, estimated value	2,225,000
Outside of the immediate environs of the city, both upstream and downstream within the protective area, various agricultural operations are carried on. Much of the farming area is very fertile. Farm lands, improvements, stock, equipment, and supplies are involved.	
These are regarded as essential operations.	
Total value of essential privately owned facilities	60,310,000
Total value of essential publicly owned facilities	14,750,000
Total value of all essential public and privately owned facilities	75,060,000

[3] Approximately 30 percent of total commercial operations in the area are essential.

Employment

Total employment in the flood plain area is estimated currently at 6,000. Employment in essential industries and services, public and private, is estimated at 3,000. Interference with employment is serious with 16,000 cubic feet per second flood.

Public health

Many hundreds of acres of lowlands contain stagnant water, trash dumps, and other disease- and insect-breeding conditions. Prevailing southerly winds blow disease carriers into the main business district where there is heavy concentration of workers, hotels, and restaurants. Construction of the floodway will eliminate all or practically all of these public health threats.

Planned public improvements

In May 1950 Oklahoma City voted bond issues totaling $36,000,000 for various public improvements.

In this was included the sum of $2,775,000 for acquisition of right-of-way for the Oklahoma City floodway.

Also included were sums for urgently needed water, sanitary sewer, storm sewer, urban highway, street, and other improvements which involve the flood plain of the North Canadian River to a major extent. Plans for this construction, and cost estimates, are based upon the assumption that the floodway will be constructed at once.

At least one-third of Oklahoma City—all that lying south of the river—is now seriously handicapped in its daily operations by lack of these facilities, particularly water and sanitary sewer lines. These facilities must cross the river area to connect with central pumping and disposal points.

Military highways

As stated earlier herein, United States Highways Nos. 62 and 77—which are a part of the designated military highway system of the Nation—cross this river bottom on presently designated routes.

The approved urban road system of the city, part of which is now under construction and for other parts of which the city has already acquired right-of-way, proposes the rerouting of both of these highways and of United States Highway

No. 66, also of military designation, through the flood plain area. This rerouting is based upon assumption that approved plans for the floodway will be carried out.

Lands to be acquired by the city for the floodway right-of-way will also provide right-of-way for approximately 7 miles of the urban system, carrying these three military highways.

SUPPLEMENT NO. 1–A

ESTIMATE OF THE VALUE OF "ESSENTIAL MANUFACTURING AND PROCESSING OPERATIONS" LOCATED IN THE FLOOD PLAIN OF 1923 FLOOD

I am listing below those operations which include metal fabricators and processors, oil field and refinery equipment and supplies, construction materials, meat and other foods, livestock feeds, industrial and agricultural chemicals, truck body and trailer manufacturers, machine shop products, mill and other woodworking operations, vegetable-oil processors, and others capable of converting to essential production.

Firm and address	Product	Estimated value
A. R. K. Manufacturing Co., 1321 South Walker	Cast bronze and aluminum products.	$100,000
Acme Flour Mills Co., 19 Southwest 12th [1]	Flour and feed	450,000
Acme Millwork & Supply Co., 515 North Kentucky	Millwork	50,000
Adams-Irick Truck Body Works, 1429 West California	Truck bodies and trailers	50,000
American Body & Trailer, Inc., 1500 Exchange Ave	Trailer and bus equipment for Army Ordnance, continuous production.	1,500,000
Atlee Dairy, 1601 Exchange Ave	Dairy products	70,000
Barada & Page, Inc., 203 South Compress	Chemicals	80,000
Beatrice Foods Co., 316–322 North Western	Dairy products	800,000
Belsky Manufacturing Co., Inc., 800 West California	Refrigeration cases	125,000
Black, Sivalls & Bryson, Inc., 2131 Westwood [1]	Tanks, oil and gas separators, etc.	4,000,000
W. H. Butcher Packing Co., 101 Southeast 8th	Meat products	90,000
Butts Electric Works, Main and Pennsylvania	Armature winding	75,000
California Spray Chemical Co., 1010 East Reno	Chemicals	200,000
Canadian Valley Meat Co., 1240 Southwest 15th	Meat packing	75,000
Capitol Bag Co., 1621–1629 West Grand	Burlap, mesh, and cotton bags	150,000
Clayton-Dorris Co., Inc., 103 South Pennsylvania	Furniture	75,000
Continental Baking Co., 121 West Washington	Bakery	1,500,000
Cornett Packing Co., 200 East Choctaw	Meat products	50,000
Domar Mfg. Co., Inc., 2 South Pennsylvania	Plastic molding, etc	50,000
Double Eagle Ref. Co., 1900 Northeast First	Petroleum refining products	200,000
Drug Sundries, Inc., 15½ East Reno	Drugs and cosmetics	80,000
Eagle-Picher Co., Paint & Varnish Division, 1801 West Grand.	Paint and varnish	600,000
Enterprise Foundry, Inc., 817 South Broadway [1]	Grey iron castings	90,000
Executive Furniture, Inc., 911 South Walker [1]	Desks, radio cabinets, etc	350,000
Frisco Packing Co., 644 S. Walnut	Meat packing	100,000
Governair Corp., 513 N. Blackwelder	Air conditioning equipment	250,000
Harris Meat Packing Co., 1616 West Reno	Meat packing	200,000
Industrial Gasket & Packing Co., Inc., 801 South Walker [1]	Gaskets and packing	75,000
Industrial Machine Co., 1546 West Reno	Steel fabrication and machinery.	130,000
International Mfg. Co., 600 East Grand	Air conditioning equipment	80,000
Jennings Mills, Inc., 216 South Compress	Feeds, flour and grain mill products.	250,000
Fred Jones Mfg. Co., 215 West Washington	Engines rebuilt and auto parts manufactured.	1,000,000
Harry Keeton Supply Co., 1522 West Main	Cotton felt, mattress ticks	200,000
L & S Bearing Co., 3 North Pennsylvania	Bearings	450,000
Linde Air Products Co., 1000 Southwest Second	Industrial gases	75,000
Lumbermen's Supply Co., 1530 West Main	Millwork	150,000
Mac's Supply Co., 2727 West Reno	Gasoline storage tanks	75,000
Makins Sand and Gravel Co., 100 Southeast Fourth [1]	Sand, gravel, and concrete	250,000
Geo. E. Martin & Co., 19 North Dewey [1]	Leather goods	75,000
Metropolitan Paving Co., 300 South Indiana [1]	Asphalt paving	1,200,000
Monarch Refineries, Inc., 2800 East Fourth [1]	Petroleum refining	5,000,000
Midwestern Perlite Corp., 201 North Eastern	Light weight aggregate	150,000
Morgan Sash & Door Co., 1100 Southwest Third	Millwork	400,000
Mud Control Laboratory, Inc., 1832 West Reno	Oil field tools	150,000
W. L. Oakes Mfg. Co., 615 Southwest Ninth [1]	Ladders, millwork	90,000
Oklahoma Bed Spring Co., 712 South Broadway	Mattresses, springs and bedding.	125,000
Oklahoma Gear Works, 325 Southwest Sixth	Gears and chain sprockets	50,000
Oklahoma Oxygen Co., Exchange and Kentucky	Oxygen, industrial gases	50,000
Oklahoma Waste Material Co., 1100 East Reno [1]	Wiping rags	250,000

See footnote at end of table, p. 1266.

Firm and address	Product	Estimated value
Para-Lac Chemical Co., 1245 South Eastern	Oil well chemicals, etc	$75,000
Peoples Packing Co., Inc., 103 Southeast Eighth	Meat packing	100,000
Planet Oil & Refining Co., 416 North Eastern	Lubricating oils	150,000
Precision Machine Works, 1705 Southeast Fifteenth	Auto parts and accessories	75,000
Producers Cooperative Oil Mill, 5 East Frisco	Cottonseed products	125,000
C. W. Rathbun Co., 800 West Grand	Truck bodies and trailers	50,000
Reliable Tent and Awning Co., 324 West Reno	Awnings, etc	75,000
Roisman Products Co., 207 South Compress	Laundry bleach, etc	25,000
Seck Trailer Manufacturing Co., 1345 West Reno	Custom-built truck, trailers, and bodies	50,000
Soil Booster Corp., 2501 East 4th	Fertilizer	75,000
Southwest Awning & Canvas Co., 217 South Broadway	Truck tarpaulins, etc	25,000
Southwest Factory, Inc., 1432 West Main	Propane tanks, steel fabrication	150,000
Southwestern Cotton Oil Co., 6 East Chickasaw	Cottonseed products, etc	125,000
Southwestern Supply & Machine Works, 6 East Chickasaw	Conveying equipment	100,000
Steel Sales & Supply Co., 2-12 West Pottawatomie	Building materials, etc	150,000
Superior Feed Mills, Inc., 2100 South Robinson	Feeds	3,000,000
Traders Compress Co., 2001 East Reno	Cotton compress	1,000,000
Tri-State Paint & Chemical Co., 1245-47 South Eastern	Paints	50,000
W. & W. Steel Co, 1730 West Reno [1]	Steel building and steel fabrication	2,000,000
Wylie Bros., Inc., 1840 West Reno	Steel fabrication	100,000
Total		29,135,000

[1] Firms now in production on defense contracts or defense subcontracts.

"The Oklahoma City floodway project, as authorized by the Flood Control Act approved July 24, 1946, and modified by the Flood Control Act approved May 17, 1950, will provide flood protection at Oklahoma City against floods on the North Canadian River. The plan of improvement provides for an enlarged and straightened channel through the city. The present estimated cost of this project is $10,460,000. As you know, no funds have been made available for initiating construction of this project. Our district engineer at Tulsa, under the general supervision of the division engineer of our southwestern division, has, however, proceeded with detailed engineering studies and investigations to the extent possible with available funds, in order that construction of the project may be initiated at the earliest practicable date when funds are made available for that purpose."

STATEMENT OF N. R. GRAHAM, CHAIRMAN, PLANNING AND RESOURCES BOARD, STATE OF OKLAHOMA

SURVEY AND PLANNING FUNDS

Chairman McKellar. Our next witness is Mr. N. R. Graham.

Senator Kerr. Mr. Chairman, may I say that Mr. Graham, in addition to being one of the most important authorities on water matters in Oklahoma, is representing the Governor of our State. Mr. Graham is also vice chairman of the planning and resources board of Oklahoma, which has charge of the plans for this development.

Chairman McKellar. Will you go ahead, Mr. Graham?

Mr. Graham. I would like to talk briefly about some things that rather worry us in the State of Oklahoma. Among them are the drastic cuts that have been made in planning and survey funds by the House. The Budget Bureau has been pretty restrictive on the matter, but we do feel that the cut in planning funds has been pretty drastic, and that if we are to go out of the business of flood control and rivers and harbors, we ought to do it by legislation and not by indirection in the matter.

In Oklahoma, as you know, there is under way the Arkansas-Red-White study. There is a like study under way in New England.

I happen to represent the Governor of Oklahoma in that group study. I know that it started out on the orders of Congress. It was originally proposed as a 2-year study, and then, as a matter of economy it was extended to a 4-year study. Of course, I do not think it really was economy because I think it makes what should be a short-time study into a long-time, drawn-out activity.

SURVEY FUNDS

I want to say that the States are taking an active part in this matter. We are spending our money, and as you spread it out, if it is extended to more years, that partnership deal becomes a more expensive item, rather than a savings item. We feel that that item should go back in.

PLANNING FUNDS

Then, in the matter of planning funds, the Army engineers have spent several hundred thousand dollars on a definite project report of the Keystone Reservoir, which is one of the key reservoirs in the Arkansas plan. It is within $150,000 of being a complete, definite project report. The budget also put that item in. The House cut the item out, and we feel that that item, along with the other planning items, should go back in.

OOLOGAH RESERVOIR

In 1950, this committee—or rather, in 1949 or 1950—this committee and the Congress appropriated about a half-million dollars to start the construction of Oologah Reservoir in Oklahoma. Last July, you will recall that the President sent up a message in which he asked special funds for three reservoirs: Tuttle Creek, Toronto, and Oologah. All three of them were deleted by the conference committee, and probably necessarily so. One reason for deleting Oologah Reservoir was the claim that the operation of the oil fields in the upper regions could not be carried on, even though the power had been deleted and the project was to be operated probably like the Miami Conservancy District, with a quick draw-down after a flood.

In October the Sinclair Gas & Oil Co. came to my office and stated that they wanted the State of Oklahoma to help them recover the oil, and we concurred in the idea. I suggested that they put their engineers to work on the matter.

They came up with a proposal which called for a draw-down, and I think the present law does call for it.

The action of this committee in previous years calls for the draw-down and the elimination of power.

I think that is correct, is it not, General? The present situation does call for the power to be temporarily deleted in Oologah?

General CHORPENING. Yes, sir, and until we install the power generation facilities we can draw-down and operate the reservoir at a lower level.

Mr. GRAHAM. They wanted to be satisfied in the matter, and I submitted that to the Interior Department.

The Interior Department had originally questioned the matter of the oil, but in their letter they concur. I am filing these things with

the committee, because I feel that they should be made a part of the record if the matter comes up again.

Now, I want to concur with our friends in Kansas in asking for the Toronto Reservoir in Kansas. That part is important to the northern reaches of Oklahoma.

We also want to concur in asking for planning funds for the Strawn Reservoir, and especially want to concur with Arkansas in connection with the bank stabilization program. We feel that that is a vital program. At the present rate it is almost on a 2-percent-a-year basis, and it would take about 50 years to carry it out at the ratio we are operating.

I hope that foreign affairs will some day let us get back on our own projects.

Thank you, sir.

Chairman McKellar. I join in the hope.

(The prepared statement follows:)

STATEMENT OF N. R. GRAHAM

My name is N. R. Graham. I am here representing the Governor of the State of Oklahoma through its planning and resources board, of which I am vice chairman. I also represent the Governor of Oklahoma on the Arkansas-White and Red River Basins Interagency Committee.

So far as civil functions are concerned, of first importance to our State and the whole Nation, as we see it, is a complete restoration of planning and survey funds requested by the budget.

With all respect to the Appropriations Committee of the House of Representatives, it seems to us that their drastic reduction of planning and survey funds cannot be viewed other than an order to close down all future flood control and rivers and harbors works. If this is to be, it should be by direct and not indirect legislation. To us this is not only a mistake in view of continuing loss of life and property from floods; it is a dangerous neglect of the future economy of this Nation.

Recently the treasurer of a very large oil company said to me: "I am glad to see that Congress is building a shelf of public works. Today, even in the face of a grave world situation, American production is largely keeping up with both civilian and military demands and, in some lines, exceeding all demands. Any let-down in the need for war material in Korea or elsewhere will quickly result in unemployment, for today there is no great backlog of consumer needs such as was present at the end of the Second World War."

Yet, the House committee not only slashed planning funds, they assigned much of those they did approve to a few projects—none of them in the Arkansas Basin. As a result, this is the present planning outlook in the Arkansas Basin in both Arkansas and Oklahoma.

The budget office asked $150,000 to complete the definite project report of the Keystone Reservoir, the President having declared this to be in the interest of national defense. In excess of half a million dollars has already gone into this study. One hundred and fifty thousand dollars will complete it, yet the House committee cut it out. Is is true economy to discard a project in which so much has been invested and so little will complete?

Floods of the proportion of the 1943 flood on the Arkansas at Fort Gibson, Okla., or the 1951 flood at Kansas City will top the Tulsa levees below Keystone. There are 57 important factories employing 9,742 workers in this area. Approximately 15,000 people live behind these levees. Must we await tragedy before we can complete plans to protect these people?

Last year the House committee earmarked $1,200,000 for the Arkansas-White and Red River Basins study. This year, though the House committee in its report insists at length on the need of integrated planning, they did not support this or the New England study, both of which are efforts at achieving integrated planning. If the Arkansas-White and Red River study receives its reasonably proportionate share of House-approved planning funds for civil works, that will be about 25 percent of the $1 million budget estimate of need. This will not save a penny; in fact, in the long run it will cost more. This study is scheduled to be completed in the fiscal year 1954. Such a reduction as proposed by the House will put this study on a longer schedule and at a greater cost.

In the meantime there are before both the Senate and House committees new proposals for more study groups to find answers to the very same coordination questions now under study by both the southwestern and New England groups. Surely Congress can best save money by keeping the studies you have already started on schedule rather than seeking new studies.

Then, too, there is a matter of good faith involved in keeping the Arkansas-White and Red Basins study on schedule. The States are participating and at their own expense. If the Congress drags its feet and increases Federal costs, you are forcing an increase in the cost to the States.

We earnestly hope that this committee will restore the small appropriation for planning requested by the budget.

STRAIN ON NEOSHO IN KANSAS

The Arkansas River is approximately 1,400 miles long and drains floodwaters from seven States: Colorado, New Mexico, Texas, Oklahoma, Kansas, Missouri, and Arkansas.

By January 1953, under present plans, there will not be a single flood-control or flood-control and hydroelectric reservoir project under construction in this vast basin. The same is true of the White and Red River Basins. Combined, they comprise approximately 10 percent of the area of the Nation.

There is no such complete shut-down in any other major river basin in America. Here we have actually reached the stage of abandonment. American funds are going into new river projects all over the world but in the Arkansas Basin one project (the Oologah), which was put under construction in 1949, was shut down in 1950 because hydro power had been temporarily deferred to permit the production of oil from an old and nearly depleted field in what would have been the power pool. Last July President Truman, in a special message to Congress, following the Kansas-Oklahoma flood, asked for $1,500,000 to resume construction. The Oologah Dam site has been purchased. People who live and farm in the reservoir area are thus put on notice not to build or repair. Land sales are frozen. Again, let us say it is costly to start and then stop public works.

You will recall that, although the Senate approved them, the conference committee refused all three of the President's special message reservoir appropriation requests: Tuttle Creek on the Kaw, Toronto and Oologah on the Verdigris.

One reason advanced for the deletion of Oologah was the unfounded claim that stripper oil wells could not be operated even if the reservoir were to be operated only on a flood-control basis, as is now required by the Congress.

Last October, attorneys for the Sinclair Oil Co., an important operator in this area, requested the State of Oklahoma to aid them in assuring that this oil can be recovered. We suggested that they have their geological and production departments gather their own data, advise their legal department, and come up with a suggested legal safeguard proposal to be presented to the Congress. We agreed to present it to your honorable committee. On December 21, 1951, the Sinclair Co., through their legal department, mailed the following letter and legislative proposal:

SINCLAIR OIL & GAS CO.,
Tulsa, Okla., December 21, 1951.

Mr. N. R. GRAHAM,
Tulsa, Okla.

DEAR MR. GRAHAM: Again, we wish to thank you for the courtsey extended to us and for listening so graciously to Mr. Foley Wright and me the other day while we were explaining to you the extent of the oil and gas reserves held by Sinclair Oil & Gas Co. in the area which will perhaps eventually be inundated by the waters impounded by the Oologah Dam on the Verdigris River, and our desire to produce these reserves before they are inundated.

You so kindly suggested that if we would prepare a suggested rider, you would use your good offices to prevail upon someone in the United States Senate to propose the rider as an amendment to the appropriation bill in the next Congress. I have discussed this with Mr. Garrett and he believes the attached rider should be introduced.

The adoption of this rider would enable the oil producers to produce the greater part of the oil deposits before inundating the area.

We enclose the rider for your consideration, and we hope the rider will be adopted.

Mr. Garrett joins with me in expressing our appreciation of your kindness.

Sincerely,

PHILIP J. KRAMER.

"RIDER PROPOSED FOR INTRODUCTION IN APPROPRIATION BILL FOR OOLOGAH DAM

"For the promotion of conservation and the prevention of waste in our natural resources, and in order to permit the recovery of the oil and gas minerals from the reservoirs of such minerals existing below the lands which may be inundated by the waters impounded by the construction and operation of the Oologah Dam on the Verdigris River in the State of Oklahoma, the Oologah Dam so to be constructed and operated through the moneys hereby appropriated, shall be operated in such manner and so far as is practicable *consistent with normal flood-control operation*, so that the surface water level of the Verdigris River within the area of the waters to be impounded by said dam shall not raise, *except for flood-control operations*, above a level which is 600 feet above mean sea level *at the dam* until such time as it shall be determined by *competent petroleum engineers* that the greater part of *recoverable* oil and gas minerals which were deposited in such reservoirs have been brought to the surface of the ground and recovered from such reservoirs."

Because the Interior Department had raised the question of the desirability of producing the final drop of oil from these near-depleted wells (a matter in which we concur) the State of Oklahoma submitted the Sinclair legislative proposal to that department.

On January 15, 1952, Mr. C. L. Forsling, Chairman of the Southwest Field Committee of the Department of the Interior, gave us the following copy of his report to the Secretary on this matter:

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
SOUTHWEST FIELD COMMITTEE,
Albuquerque, N. Mex., January 15, 1952.

To: The Secretary of the Interior (through: Director, program staff).
From: Chairman, Southwest Field Committee.
Subject: Mineral resources in Oologah Reservoir site, Oklahoma.

Mr. N. R. Graham, vice-chairman, Oklahoma Planning and Resources Board, and representative of the Governor of Oklahoma on the AWRBIAC, has called my attention to a rider proposed for introduction in connection with an item in an appropriation bill which would provide funds for proceeding with the construction of Oologah Dam in Oklahoma. A copy of the proposed rider is attached. Its object, of course, is to assure recovery to the maximum practicable extent of oil and gas resources, the extraction of which might otherwise be prevented by the operation of the reservoir which would be formed by the Oologah Dam. I informed Mr. Graham of the offer of this Department to cooperate with the Department of the Army in investigations aimed to make possible suggested procedures for the recovery of the oil and gas reserves in the reservoir site and at the same time achieve the flood control and other benefits for which the dam is to be built; and, that in my opinion the objective of the proposed rider would be in conformance with the desires of the Department of the Interior to avoid the loss of the recovery of the oil and gas resources in the reservoir site. It would be preferable in my opinion, inasmuch as more than one agency of the Department would be involved in the technical determinations, if the words "the Secretary of the Interior" were substituted for the words "the United States Geological Survey" in the proposed rider.

C. L. FORSLING.

Attachment.

We believe that this committee should provide funds to renew construction of the Oologah Reservoir and insist that they be retained in the budget by the conference committee (1) because the 1952 budget request was delated on untrue information; (2) because at least one reservoir should be under construction in 1953 in this vast river basin. Oologah is one of but two completely planned; (3) In fairness to the property owners in the reservoir area whose property has been frozen by purchase of the dam site.

Though Toronto Reservoir, 83 river miles above Oologah on the Verdigris, will aid flood control in Oklahoma secondary to Oologah, we yet recognize the great need of Toronto to our sister State of Kansas, as well as to northern Oklahoma. Plans for Toronto have been completed for 4 years. Last July, following the

great Kansas flood, the President listed Toronto with Tuttle Creek and Oologah for special appropriation. The need for this project is as great as last July. We ask that Toronto, as well as Oologah, be put under early construction. They are both comparatively small-cost projects yet both are of high economic ratio and large public value.

The Government of the State of Oklahoma desires to endorse the presentation of Oklahoma City for starting funds for the Oklahoma City floodway. We believe this project to be in the interest of national defense. Certainly it is important in the protection of a major urban center.

We also ask an increase in bank stabilization funds for the lower Arkansas River in Oklahoma and Arkansas. Last year this was the only item in the President's supplementary flood-control budget which was approved by the Congress but, this year, though several segments of this work have been put under contract, the proposed appropriation of $2,000,000 is less than half the starting funds. This program cannot be kept at an economical construction pace with appropriations of less than 2 percent of the estimated cost. If these lands are worth saving at all, and they are, then the pace of such conservation must be faster than 50 years. Here we lose acres of land even after a minor flood. In Oklahoma, floodwater from the Arkansas has already spilled across the narrow ridge into the Poteau. No one knows how soon the gap will open and the great stream overrun the little stream valley. Here at Bradens Bend the fuze of tragedy is already lighted. Its explosion will be another major tragedy and loss of people and property. Neither time nor the river awaits man.

N. R. GRAHAM,
Representing the Oklahoma Planning and Resources Board.

Chairman MCKELLAR. Congressman O'Hara, will you come forward, sir?

STATEMENT OF HON. JOSEPH P. O'HARA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA

MANKATO FLOOD CONTROL PROJECT, MINNESOTA

Representative O'HARA. For the record, my name is Joseph P. O'Hara, a Representative in Congress from the Second Congressional District of Minnesota.

Mr. Chairman, I have a prepared statement which I would like to submit for the record.

Chairman MCKELLAR. Without objection, your statement will be incorporated in the record.

Representative O'HARA. Mr. Chairman, I ask permission to include the testimony of myself, that of Mayor H. C. Wollam of North Mankato, that of Frank Magnuson, city engineer of North Mankato, and also that of John Zotalis, mayor of Mankato.

That testimony was previously presented before the Civil Functions Committee of the House.

Chairman MCKELLAR. That will be done.

(The testimony referred to follows:)

FRIDAY, FEBRUARY 29, 1952.

MANKATO FLOOD PROJECT

WITNESSES

HON. JOSEPH P. O'HARA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA
H. C. WOLLAM, MAYOR, NORTH MANKATO, MINN.
FRANK MAGNUSON, CITY ENGINEER, MANKATO, MINN.
JOHN ZOTALIS, MAYOR, MANKATO, MINN.

Mr. RABAUT. The committee has before it the Mankato flood control project. Congressman O'Hara, of Minnesota, is present. You may proceed, Congressman.

Mr. O'HARA. Thank you.

Mr. Chairman, I wanted to bring up the matter of a $20,000 appropriation for the Corps of Engineers for the purpose of making a survey of the Minnesota River at a point 3 miles upstream and 3 miles downstream at Mankato and North Mankato, Minn.

If I can make you a brief statement, then I think Mayor Wollam, of North Mankato, and City Engineer Frank Magnuson, would like to be heard. Mayor John Zotalis, of the city of Mankato, is also here to give testimony in support of this request. These gentlemen will give you in more detail the facts supporting the urgent need for the requested appropriation.

For the information of the committee, I have here a prepared brochure and flood report on North Mankato, of the flood of April 7, 1951. The pictures therein graphically speak for themselves and will illustrate the tremendous importance of a survey by the United States Engineers.

In the aerial photograph marked exhibit I in the brochure, North Mankato is to the right in the photo and a small portion of the Mankato area appears to the left of the river in the photo. In exhibit II, the positions are reversed and the city of Mankato is shown to the right in the photo.

In the spring of 1951, largely as a result of the melting of a near-record snow cover in the Minnesota River Basin, flood stages approaching or exceeding any previous record were produced in the Minnesota River. At Mankato and North Mankato the river reached a stage of 26.04 feet.

At North Mankato the entire population of about 5,000 people were evacuated and damages to residential and city improvements totaled in excess of a million dollars.

At Mankato, on the easterly bank of the river, about 1,000 persons were evacuated, industries located near the river were flooded, and numerous business and residential basements were flooded. The witnesses from the respective cities will testify as to the damage which resulted.

While other municipalities along the Minnesota River and on tributaries of that river were also affected to the extent of several million dollars of damage and it was necessary to evacuate many of the residents of these other communities, it is conceded that the great and immediate problem is the construction of dikes and flood

protection in the Mankato-North Mankato area; that this is most imperative.

Under existing law there is authority for the making of a survey by the United States Engineers for the purpose of authorization and construction of dikes and flood control, and the very basic problem is for an appropriation of at least $20,000 for the making of the survey which will be necessary to gather the technical information which would be the basis of the recommendations of the United States Engineers as to what is necessary to prevent a recurrence of the catastrophe which struck these two cities.

I must state most emphatically that I feel it is necessary not only to ask for an appropriation for this specific survey but that it be pinpointed and designated as an appropriation for the specific purposes which have been and will be outlined.

Therefore, I have requested and am most grateful to the committee to be allocated time to present this problem, through the three witnesses and myself.

(Discussion off the record.)

Mr. O'HARA. Just in one short statement there is the report of the United States Engineers.

Under the Department of the Army, "Civil functions," part 1, page 500, there is an appropriation of $25,000 to complete a survey which has been authorized for flood control purposes of the Mississippi. I called the United States Engineers' office yesterday and apparently it does not refer to the amount required for us to have this survey made for the purpose which I have outlined. So rather than get into any difficulty and argument with the engineers' office I particularly ask that this $20,000 be specified for the purpose which I have outlined in my statement, for the survey of the Minnesota River in Minnesota by the United States Engineers to a point 3 miles above and 3 miles below the North Mankato area. That is my problem.

If I might ask Mayor Wollam, mayor of North Mankato, to make a statement with reference to the problem of North Mankato?

Mr. WOLLAM. On behalf of the city I want you to know that we appreciate the opportunity in these few minutes to appear before you, recognizing the vast amount of work you do for the entire United States. We thought it might be well to have the resident engineer give you a picture from this map where the flood occurred and the area it covered. This is Mr. Frank Magnuson who has had many years of river and harbor experience.

Mr. MAGNUSON. Mr. Chairman and gentlemen, I will try to outline the situation on this map so you can understand what actually happened.

First of all, I will call your attention to the little index map with Minnesota in the far corner. The Mississippi flows along here. The Minnesota River under discussion now originates with Big Stone Lake area in the west part of the State and flows southeasterly to Mankato and North Mankato. Then it turns about 90 degrees and flows northeast and joins the Mississippi at Fort Snelling. The red spot here on the map indicates the area covered by the chart portion of the map.

It is indicated in a dotted line to outline all the flow as it occurred in the early part of April. This is the dotted line on the east side of the river.

The city of North Mankato lies on the left bank in this area here. North Mankato has an area of about 1⅙ square miles whereas Mankato has an area of about 7½ square miles.

The Minnesota River flows in this fashion as I have indicated here. This is where it joins Mankato and North Mankato and is flowing in an easterly direction. It then proceeds north up here.

The acreage flooded in this fashion, as I have indicated here, this is where it joins the Mankatos—the acreage was some 500 acres. Here were some original dikes constructed in 1908–9; shown in green is easterly side area of North Mankato. There is a little spot at the end of the bridge between Mankato and North Mankato which was above high water.

This is where they have a 7- or 8-foot drop. The levels were 7.68 and 7.69. Shown in the red is the area back of the dike which covers eight-tenths of the city of Mankato. It actually represents the area occupied by about 98 percent of the homes. There are some homes located up here above the high water. About three homes here are outside the dike.

Lastly, we completed 2½ miles of dike construction.

We have an extensive storm-sewer system with 15 outlets into the river. These were equipped with shut-off valves so the high water would not cause the sewers to back up and flood the city.

It so happens that there is a drop of 8 feet in this area.

Mr. KERR. The pink area is the flood area.

Mr. MAGNUSON. Yes, sir. These large numbers in here, like 3, 2, 4 represent the approximate depth of the water over the street services when the flood was at its highest.

Are there any other questions on that?

Mr. O'HARA. What did the city put out in building the dike? And one other question. You and the State of Minnesota have done some survey work which information would be valuable to the United States Engineers?

Mr. MAGNUSON. Yes.

Mr. O'HARA. And then in addition you have called Colonel Yoder, the district engineer, who indicates that $20,000 would be sufficient to complete the information which would be required.

Mr. FORD. The work you have done, described here—the construction of these dikes—how do you know at this point that that construction work will not interfere with any contemplated work the Army engineers may subsequently build?

Mr. MAGNUSON. I would approach it in this way. Alone we have constructed dikes to height 24. The flood was height 26. In 1908–9 the city of North Mankato built these dikes and the records show they had contacts with the United States Engineers at the time and they had no objection. I was in the office of the United States Engineers last week and inquired if they were interested in my detailed sheets which were about two-thirds the size of this map covering all the details here.

I was told by the gentleman second in command that they would be glad to have my plans and he inquired if we had built any of the dikes out into the river area. We have not done that. We have them on the bank. It becomes more or less a private matter. They will take into consideration when making computations that we have made dikes.

Mr. O'HARA. It may be a problem for the United States Engineers to clean it and extend dikes up and down the river which neither of the cities would have authority over. That was the problem we had—to find out what the United States Engineers would do and what the situation in Mankato and North Mankato would be to provide work that was necessary to be done as protection before anything else could be accomplished.

Mr. RABAUT. Would these dikes you have been constructing prevent the damage if you had a flood such as you did in 1951?

Mr. O'HARA. We have constructed it with a 20-foot top so we can get in and protect ourselves by raising the dikes if there should be another flood.

Mr. WOLLAM. As Representative O'Hara told you we have a population of 5,000 and the flood came upon us on April 7 and shortly after midnight of April 7 the order was given to vacate the site and by noon on Sunday, the 8th, the evacuation was completed without the loss of a single life or accident. We think the civil defense set-up there worked excellently and the job was done without trouble.

By Monday night the utilities were flooded. There was no light, gas, or water and I have used the statement before that it was the first time in my life that I saw a city die. Just up on this little hill up here where we set up our post 17 days after the flood a small group went back and this continued from week to week till only one-third of the population was out of their homes 2 months after the flood.

We have this brochure and we have the losses.

We had 117 volunteers who on June 11 went from house to house and in the press and radio we had them get their losses together and I have them down at the city hall.

On April 7 we had the flood disaster in the city of North Mankato. By midnight of April 7 the entire city was under water with the exception of one square block. North Mankato has a population of 5,000 people. It is primarily a residential city. In 1940 we had a population of 3,517 and in 1950 we had a population of 4,792. During the 10-year period from 1940 to 1950 some over 300 new homes had been built within the city.

Shortly after midnight on April 7 the order was given for the evacuation of the entire city. By noon on Sunday, April 8, the evacuation was completed without the loss of a single life nor a single accident. By Monday night, April 9, all public utilities were flooded. Seventeen days after the flood a small group of citizens were able to move back to their homes.

We have taken inventory of our public utility loss, real-estate loss and personal-property loss. Our city engineer, Frank Magnuson, made a detailed report of our public-utility loss which is divided into 11 groups and is given in report No. 1.

We had a personal survey on every home and business place within the city by 107 North Mankato citizens. We have a detailed report on this in our city offices and a brief outline in report No. 2. We have a statement showing the taxable value of North Mankato in report No. 3.

On or about May 29, Col. L. G. Yoder made an interim report to Washington as to the possible cost of a survey 3 miles up and 3 miles down the river within the vicinity of Mankato and North Mankato. The cost of this survey was approximately $20,000. On

September 30, we appeared before the Committee on Appropriations in the United States Senate. The entire information is contained in the "civil functions department" of Army appropriations for 1952, which is printed for the use of the Committee on Appropriations.

It is our understanding that our bill for the $20,000 passed the Senate and got lost in the final adjournment and there were only two appropriations for surveys, one being the case of the Arkansas River and the other in the case of the New England, New York survey.

We are now appearing before you asking for this particular survey and also to tell you what we have accomplished since the flood. In regard to North Mankato we have built the dike around the city and have put shut-off valves in all of our storm sewers that enter the river. The people voted for a bond issue of $60,000 to cover the project. It is almost completed. In addition, we have surveyed a portion of the river as it relates to the dike at a cost of something over $3,000. In addition to this, Mankato has completed their surveys and are now in the process of building their dikes of which Mayor John Zotalis will give you a report in just a few moments. We have gone just as far as it is humanly possible to do as a group of people. We now need the help of the Federal Government for the survey of the river 3 miles above and 3 miles below North Mankato and Mankato and then to arrive at the further cost of eliminating future dangers.

The river itself is under control of the Federal Government and once we arrive at the cost then we can find out where we as citizens of North Mankato and Mankato can again enter the picture in cooperation with the Federal Government in correcting the situation that will make both cities permanently secure.

At this point it is my pleasure to present to you Mayor John Zotalis of Mankato who will give you the report of what they have done to date.

Mr. FORD. Before you do that let me ask you one question. Has the United States Government or anybody except the local people in that area who are trying to get stabilized—has any money been spent on that?

Mr. WOLLAM. No.

Mr. O'HARA. No Federal money.

Mr. FORD. What about other money? Money spent by owners of property?

Mr. WOLLAM. All the property has been put together into shape and you have a loss of $259,000. We had a meeting several weeks ago regarding revenue deductions from income tax and the last report was from the north side that the losses from income-tax revenue would be close to $100,000 the first year. I think that pretty well answers it.

Mr. FORD. That was what I wanted to find out.

Mr. RABAUT. We will be pleased to hear you, Mr. Mayor.

Mr. ZOTALIS. I can truthfully say that April 7 will be a memorable event in my life. It was the first day I took office in public service. We were water logged. We found ourselves in a dilemma but it was gratifying to me because each and every citizen participated whole heartedly. Everyone was doing his job.

Businessmen and individuals who were not badly hurt by the flood contributed to the welfare of the refugees by helping to move belongings and offering shelter. State Guard units from three nearby States

went into action as also did the civil-defense units. The Northern Natural Gas Co. furnished radios to supplement communication. The Red Cross, Salvation Army, and allied organizations were on the job almost immediately. The Army loaned 68 pumps to this area, and about 20 others were made available from other communities. None of the above described expenses appears in this report.

The Red Cross gave aid in the amount of $110,000 to this area, most of which went to North Mankato. This figure also does not appear in the final estimate. Their aid was given only to the people in dire need. They did a wonderful job and actually saved some families from financial disaster.

The total figure of $651,441.71 is to some extent incomplete and partially estimated. The revision of this figure if all truths were known would be sure to be upward. Everyone in the community suffered directly or indirectly.

The city's current budget is $594,000 for a population of 18,771 (1950 census). Of this amount, $100,000 was set aside for the permanent improvement fund to handle street and local improvement expenditures. The street department direly needs most of this money for repairing, building, and rebuilding. New storm sewers have to be constructed under existing streets as well as all new appurtenances for recently accepted additions. But, 90 percent of that money has been or will be spent for flood control; $10,000 will not nearly begin to buy streets, sewers, and water mains. The city has suffered a severe set-back, financially as well as in its pursuit of progress, but it has an obligation to fulfill in the form of protection for its citizens. They must have a guaranty that this will not happen again.

Mr. O'HARA. The total loss between the cities was over $2,000,000 damage.

Mr. ZOTALIS. So we decided to do something about it. We let the streets go to give us security. We set up two sections of dikes to protect the people in the West Mankato area. The first section for flood expenditures came to $76,244.

We have another community which is by itself and we are seriously contemplating as soon as possible to give it opportunity to become part of the city of Mankato. This community was handled during the flood by the competent action of Sheriff Mickey Davis and assistance was given by both communities to 120 families in that area alone.

Our main problem along the Minnesota River which we have tried to do was to remove many of these islands that have grown up in the middle of the river and remove the trees. Here is the way the islands looked before we had volunteer groups to help us remove the trees and debris to let the water flow freely down the Minnesota. And this is the way it looks after the "thousand islands" were taken off.

That, in brief, is the report.

Mr. O'HARA. Just one point in reference to North Mankato. They have testified they have gone their limit in bonded indebtedness to correct this thing and that is true of Mankato in the amount expended up to the present time.

Mr. ZOTALIS. Yes.

Mr. O'HARA. Both communities have done everything they can.

Mr. WOLLAM. We have gone as far as we can but now we are stopped. I have a complete report.

Mr. RABAUT. We will place these reports in the record.

Mr. O'HARA. The engineers have asked for $25,000 to complete a survey on flood control of the whole Minnesota River which does not pin point this thing. I do not want any trouble about it. That is why I have asked for an allocation of this $20,000. It is the bottleneck that prevents us going ahead with this thing.

REPORT NO. 1

Honorable Mayor and Common Council,
City of North Mankato, Minn.

MAY 21, 1951.

GENTLEMEN: As requested, I herewith submit for your approval an approximate estimate of cost of flood damage to public property in the city of North Mankato, Minn., which flood occurred during the first part of April 1951.

Group No. 1 is a detailed cost estimate covering the damage to the surface of streets and alleys which totals	$44,496.66
Group No. 2 covers damage to the sanitary sewer system at a cost of	77,250.00
Group No. 3 covers damage to the storm-sewer system which totals	11,570.00
Group No. 4 indicates damage to the water supply system which totals	850.00
Group No. 5 shows the amount of damage to the municipal building and is	1,600.00
Group No. 6 covers damage to all water department buildings and totals	300.00
Group No. 7 covers damage to the city park and playground and is	2,250.00
Group No. 8 indicates accounts payable covering flood prevention work performed on the Webster Ave. dike and is	5,036.67
Group No. 9 shows cost of pumping required for sewers, ponds, and basements totaling	8,625.00
Group No. 10 suggests an increase of 20 percent for all above costs to cover contingencies and unforeseen and is	30,755.67
Group No. 11 indicates additional engineering and inspection costs incurred because of the recent flood and represents about 5 percent of the total cost of reconstruction or about	9,200.00
The grand total cost equals	193,734.00

Estimated cost of flood damage to public improvements

GROUP No. 1. STREETS

Item	Quantity	Unit	Project	Amount
1.1	593	Square yards	Repair sidewalks, at $3	$1,779.00
1.2	3,681	do	Repair boulevard parking, at 25 cents	920.25
1.3	9,078	do	Clean up boulevard parking, at 12 cents	181.56
1.4	21,431	do	Bitumen surface patching, at 75 cents	16,073.25
1.5	500	Cubic yards	Crushed rock in holes, at $1.50	750.00
1.6	175,000	Square yards	Seal coating, at 8 cents	14,000.00
1.7	100	Linear feet	Replace curb and gutter, at $2	200.00
1.8	1,000	do	Reset curb and gutter, at 50 cents	500.00
1.9	5,000	Cubic yards	Fill in wash-outs, at 75 cents	3,750.00
1.10	60	Square yards	Replace driveway approaches, at $4	240.00
1.11	38,026	do	Gravel surfacing, at 10 cents	3,802.60
1.12	100,000	do	Street cleaning, at 2 cents	2,000.00
			Total	44,496.66

GROUP No. 2. SANITARY SEWERS

2.1	7,000	Linear feet	To relay, at $9	$63,000.00
2.2	10		Manholes to rebuild, at $200	2,000.00
2.3	50,000	Linear feet	Remove sand, at 20 cents	10,000.00
2.4	5	do	Stations to repair, at $250	1,250.00
2.5	500	do	Replace house connection, at $2	1,000.00
			Total	77,250.00

Estimated cost of flood damage to public improvements—Continued

GROUP NO. 3. STORM SEWERS

Item	Quantity	Unit	Project	Amount
3.1	1,100	Linear feet	To relay, at $7	$7,700.00
3.2	2		Manholes to rebuild, at $175	350.00
3.3	17,600	do	Remove sand, at 20 cents	3,520.00
			Total	11,570.00

GROUP NO. 4. WATER MAINS

4.1	100	Linear feet	To relay, at $6	$600.00
4.2	50		Gate manholes to clean, at $5	250.00
			Total	850.00

GROUP NO. 5. MUNICIPAL BUILDING

5.1			Replace oak flooring	$200.00
5.2			Paint walls 2 coats	750.00
5.3			Replace furniture lump sum	500.00
5.4			Clean up lump sum	150.00
			Total	1,600.00

GROUP NO. 6. WATER DEPARTMENT BUILDINGS

6.1			Clean up lump sum	$300.00
			Total	300.00

GROUP NO. 7: CITY PARK AND PLAYGROUNDS

7.1	45,000	Square yards	Clean up, at 2 cents	$900.00
			Black dirt and seeding	1,350.00
			Total	2,250.00

GROUP NO. 8. FLOOD PREVENTION ON WEBSTER AVENUE DIKE

			Accounts payable:	
8.1			Mankato Ready Mixed Concrete Co	$51.48
8.2			Lundin Construction Co	1,258.10
8.3			Ed Lundin, general contractor	535.75
8.4			T. C. Hagge	52.50
8.5			The Carney Co., Inc	647.02
8.6			John R. Scheurer & Sons	542.00
8.7			Hiniker Sand & Gravel Co	169.70
8.8			Lynch Sand & Gravel	55.25
8.9			Guaranteed Gravel & Sand Co	426.00
8.10			Ed Swartout	639.37
8.11			Brown & Leguil	340.00
8.12			Owen Papka	230.75
8.13			Harley Witty	88.75
			Total	5,036.67

GROUP NO. 9. PUMPING SEWERS, PONDS, AND BASEMENTS

9.1	3,500	Hours	Labor, at $1.15	$4,025.00
9.2			Gasoline and oil for pumps	5,400.00
9.3			Repair and parts for pumps	1,000.00
			Total	10,425.00

GROUP NO. 10. CONTINGENCIES AND UNFORESEEN

			Add 20 percent to total of above costs	$30,755.67
			Total	30,755.67

GROUP NO. 11. SPECIAL ENGINEERING SERVICES

11.1			Special engineer, 8 months, at $625	$5,000.00
11.2			Field surveys and inspection on flood reconstruction on above.	4,200.00
			Total (5 percent of above totals)	9,200.00
			Grand total	193,734.00

Respectfully,

F. J. MAGNUSON, *City Engineer.*

96227—52——81

REPORT No. 2

JUNE 29, 1951.

To the Common Council, North Mankato, Minn.

GENTLEMEN: On June 11, 1951, we made a house-to-house survey on the loss sustained on personal property and real estate. By radio and newspapers the people were advised a week ahead of the survey to get all their facts and figures together. We divided the town into sections and had 107 volunteers. There were two questions asked. What was your personal property loss, and what was your real-estate loss?

In our official file at the Municipal Building we have the addresses of every home contacted. We did miss one block and that was the 600 block on Park Avenue. There were 1,271 homes contacted and 18 homes in the 600 block on Park that were not contacted. This gives us a total of 1,289 homes in the flood area.

The personal property loss totaled $470,356.10. The real-estate loss totaled $712,379.06. This gives us a grand total in the residential area of $1,182,735.16.

The business district's total personal property loss was $103,940, and the real estate loss totaled $73,149.99, giving us a total loss in the business district of $177,089. This added to the residential loss gives us a grand total of $1,459,824.16 on the combined residential and business district.

During the flood where business was out all the way from 30 to 60 days shows a loss in business of slightly over $400,000. The public-utility loss totaled slightly over $163,000, of which the State of Minnesota and Federal Disaster is assuming $159,000.

The Red Cross stepped in and as of June 28 had spent slightly over $110,000 on rehabilitation. The RFC Disaster Agency has approved loans for approximately $85,000, but this amount also includes loans made in the Mankato area. The balance rests entirely on the shoulders of the citizens in North Mankato.

Sincerely,

H. C. WOLLAM, *Mayor.*

REPORT No. 3

COUNTY OF NICOLLET

OFFICE OF COUNTY AUDITOR

St. Peter, Minn.

APRIL 27, 1951.

Following is a statement showing the taxable value of North Mankato for 1950, showing how much of the taxes to be collected this year will go to the State, county, city, and school district. Also the amount of State aids received by district No. 60 during the past school year beginning July 1, 1950.

Total taxable value for 1950 is $951,603; real estate and personal $145,039 making a total of $1,096,642.

The tax levy for 1950 payable this year is $179,840.42, of which $24,148.97 is against personal property and $155,691.45 against real estate. Twelve and two-tenths percent or $2,946.17 of the $24,148.97 personal property tax is on household, etc. (assess in class No. 2).

Below is a statement showing how much of the 1950 taxes levied in the city of North Mankato payable in 1951 will go to the State, county, city of North Mankato, and school district No. 60 and how much in each instance will come from tax on personal property and how much from real estate.

	From tax on real estate	From tax on class No. 2 household, etc.	From tax on all other personal property	Total
State taxes	$5,357.21	$150.76	$1,804.96	$6,592.93
County taxes, including high-school tuition and school transportation	35,190.27	654.36	4,709.17	40,553.80
Total city taxes	50,244.64	934.28	6,723.78	57,902.70
School taxes, district 60	64,899.33	1,206.78	8,723.78	74,790.99
Total	155,691.45	2,946.18	21,202.79	179,840.42

The total tax levied for school district No. 60 includes principal and interest to become due on the 1950 school-bond issue.

FINANCIAL RESULTS OF THE 1951 FLOOD, CITY OF MANKATO, MINN.

SUMMARY

The flood of April 1951 was costly—total estimate: $651,441.71. However, through the concentrated efforts of community officials, citizens, and various organizations, no lives were lost. Businessmen and individuals who were not badly hurt by the flood contributed to the welfare of the refugees by helping to move belongings and offering shelter. State Guard units from three nearby cities came to offer their services. Civil defense units went into action. The Northern Natural Gas Co. furnished radios to supplement communication. The Red Cross, Salvation Army, and allied organizations were on the job almost immediately. The Army loaned 68 pumps to this area, and about 20 others were made available from other communities. None of the above-described expenses appears in this report.

The Red Cross gave aid in the amount of $110,000 to this area, most of which went to North Mankato. This figure also does not appear in the final estimate. Their aid was given only to the people in dire need. They did a wonderful job and actually saved some families from financial disaster.

The total figure of $651,441.71 is to some extent incomplete and partially estimated. The revision of this figure, if all truths were known, would be sure to be upward. Everyone in the community suffered directly or indirectly.

The city's current budget is $594,000 for a population of 18,771 (1950 census). Of this amount, $100,000 was set aside for the permanent improvement fund to handle street and local improvement expenditures. The street department direly needs most of this money for repairing, building, and rebuilding. New storm sewers have to be constructed under existing streets as well as all new appurtenances for recently accepted additions. But, 90 percent of that money has been or will be spent for flood control. $10,000 will not nearly begin to buy streets, sewers, and water mains. The city has suffered a severe set-back financially as well as in its pursuit of progress, but it has an obligation to fulfill in the form of protection for its citizens. They must have a guaranty that this will not happen again.

INTRODUCTION

Mankato and North Mankato lie at the junction of two rivers: the fast-flowing, steeply graded Blue Earth, and the ordinarily sluggish, meandering, leisurely Minnesota. The Blue Earth River empties into the Minnesota at the upstream edge of the two cities. Three times in the measurable history of these cities have the rivers seriously overflowed their banks: 1881, 1908, and 1951. All three of these floods reached a river stage of approximately 26 feet, 8 feet higher than flood stage. At 26 feet, 7 percent of Mankato's 5,000 homes were in water.

In April 1951, all wells comprising the city water supply of Mankato were entirely surrounded by water, and the pump heads and floors barely stayed dry. Consequently, the water supply for the city of Mankato was safe in this flood even though the mains carrying the water to the city ran for 1 mile under streets where the depth of floodwaters reached as much as 8 feet. However, sewer service, natural gas, power, and telephone facilities were cut off in the critical area for the duration of the flood.

Although no studies have been made as yet of previous river records (the engineering departments of both cities are busy on protection from future floods), past experience has shown that the river is potentially dangerous in the months of April and June. In April the ice starts to break up in the river and the winter's snow melts and starts downstream. Spring rains again swell the river in June The flood of 1951 started on April 7, and apparently was the result of an abnormal 8 feet of snowfall as compared with about 4 feet in an average year. The river stage rose from about 3 feet to 26.04 feet in a little more than a week, sometimes at the rate of 3 to 4 inches per hour. When the river did not level off at 18 feet, emergency measures were taken. Families began to move to higher ground, many leaving in pajamas and bathrobes with no opportunity to save anything. The Minnesota State Guard, Civil Defense, Salvation Army, and Red Cross joined the ranks of the citizens and officials already on the job.

The river overran its banks and backed into other areas through the storm sewers. Sanitary sewers filled quickly through manholes. Many basement walls and floors gave way to the water pressure. Before the floodwaters abated, many homes and business places had several feet of water above their first floor levels.

PRESENTATION OF DATA

The figures of table I were secured on June 11, 1951, by City Assessor A. P. Krost, in conducting a survey of the following areas: North of West Rock Street; Minnesota, Poplar, and intersecting streets; West Mankato, west of West Street, and north of Minneopa Road; Mound and intersecting streets; James Avenue. 348 calls were made. 289 residents reported damage; 32 residents reported no damage, and 27 residents could not be contacted for information. A total of 6,293 days was reported as being spent away from flooded premises. The average number of days for each residence was calculated to be 21.8.

TABLE I.—*Flood damage to residential property*

Yards, lawns, shrubs, sidewalks, drives	$9,815
Garages	6,479
Basements (including heating and hot water plants)	84,584
Residences	73,807
Household goods, storm windows, screens, and food	58,690
Total	233,375

Business and industrial property reported damages totaling $248,561, found in table II. The damages include loss of revenue, loss of stocks and equipment, repairing, and cleaning. Seven concerns in particular had a loss among them of $217,561. All of these were in the worst area of the flood.

TABLE II.—*Flood damage to business and industrial property*

Ben Deike Transfer & Storage, Inc	[1] $30,000
Honeymead Products Co	65,000
Lloyd Lumber & Supply, Inc	[1] 12,000
Key City Warehouse	[2] 20,000
Blue Earth-Nicollet County Cooperative Electric Association	[1] 12,000
Gamble-Robinson Co	45,000
North Star Concrete Co	[2] 33,561
Miscellaneous business and industrial property	[2] 31,000
Total	248,561

[1] Estimates secured.
[2] Probable damage; no estimates secured

There is no doubt that other business property in the city suffered indirect damages due to the fact that people had to spend their money repairing their houses and other property. Consequently, many new suits remained unpurchased, many vacations untaken, etc. This was particularly offset in the boon to concrete contractors and paint retailers. It is safe to say that never in any 1 year of Mankato's history have so many houses been painted and so many interiors redecorated in one season.

The damage listed by public utility companies is grouped in table III. These companies sustained loss and damage to equipment, loss of revenue, and extra and overtime labor. The figures were not divided to show the different categories, but loss of revenue (or rebates) in the city of Mankato contributed a large proportion of the figures reported.

TABLE III.—*Flood damage to public utility companies*

Minnesota Valley Natural Gas Co	$6,400
Northern States Power Co	9,000
Mankato Citizens Telephone Co	2,300
Total	17,700

Table IV lists flood damage incurred by the city to its property. The park department loss includes about $15,000 of labor cost. Almost 3 months of work were required to repair and clean the park into a somewhat normal condition. The street department's damage includes items for seal coating and repairing of the blacktop surfacing where necessary. It was not unusual to see heavy trucks and Army ducks driving on streets which were covered by water. Many 20-year-old sewer and water trenches sank up to 8 inches as a result of the flood.

TABLE IV.—*Flood damage to municipal property*

Lewis Field veterans' housing project	$6,800
Parks and equipment	18,000
Streets, walks, and curbs	20,000
Water facilities, sewers, and related appurtenances	1,000
Total	45,800

Table V totals flood damage appearing in tables I through IV. It is an estimate of damage incurred by the inundation of Mankato property in the April 1951 flood.

TABLE V.—*Summary of flood damage*

Residential property (table I)	$233,375
Business and industrial property (table II)	248,561
Public utilities (table III)	17,700
Municipal property (table IV)	45,800
Total	545,436

An item for which no table is provided is municipal flood expenses (as differentiated from damage). This total is somewhat less than damage incurred because the city has not as yet restored some items to the condition in which they existed prior to the flood. The total municipal flood damage expenditures exclusive of flood control were $32,014.91, of which $10,711.51 were emergency expenditures of such type that they did not appear in table I. These items consisted of rental of pumps, an emergency fill to maintain vehicular contact between Mankato and West Mankato, etc.

The building of dikes and necessary appurtenances to hold the river inside its banks was undertaken after the flood. To February 25, 1952, the major expenditures for future flood prevention are listed in table VI. The Sibley Park Dam is located on the Blue Earth River at its junction with the Minnesota. The flood waters flowed 7 feet deep over the top of the dam, keeping the hydraulic head high. In an effort to reduce the head, a contract was let to remove a 293-foot section of the dam which had acted as a channel obstruction. This work has been completed.

TABLE VI.—*Contracted, noncontracted, and proposed flood-control expenditures*

Contracted flood-control expenditures:	
Removal of Sibley Park Dam	$10,125.00
Construction of dike, sec. I	14,472.20
Construction of dike, sec. II	36,367.00
Construction of flood-control structure on Indian Creek	13,730.00
Backwater valves	1,550.00
Subtotal	76,244.20
Noncontracted expenditures:	
Engineering costs	3,450.00
Valve installation	100.00
Subtotal	3,550.00
Proposed expenditures:	
Pumps and electrical equipment for flood-control structure	9,500.00
Culvert and valves for Warren Creek	2,800.00
Engineering costs	3,100.00
Valve installation	100.00
Subtotal	15,500.00
Total flood-control expenditures	95,294.20

Two contracts have been let for a total of 5,500 lineal feet of dike construction. At this time the earthwork portion is about one-third complete. It is expected that the dikes will be fully constructed before the spring break-up of the river. Upon completion, the dikes will protect the city from a river stage of 26 feet.

Based on the same discharge, however, confinement of the river within its banks would raise the river stage to some extent.

A combination dam and pumping station is under construction in Indian Creek, which flows through Mankato. This structure is necessary to keep the river from backing into the city and to pump the water flowing from the 30-square-mile drainage area over the dike when the river rises to 18 feet or higher.

Backwater valves have been and are in the process of being installed in storm and sanitary outlets as well as all drainage culverts leading to the river.

A group of volunteers from Mankato and North Mankato has spent approximately 500 unpaid man-hours on Saturday afternoons cutting and burning trees on islands and banks of the Minnesota River. The group feels that the island will begin to erode and wash downstream if the trees and roots no longer are available to hold the soil together. There is no doubt that the trees themselves obstructed the flow last April. Since all labor was volunteered by a committee of citizens working with the mayor and city council on flood control, no item appears in the analysis of costs. Actually, the city contracted to pay for insurance for the volunteer help on a man-hour basis, but the cost was negligible.

The total figure comprising flood loss, emergency city expenditures, and flood control for Mankato was found to be $651,441.71. Table VII itemizes the figures making up this total.

TABLE. VII.—*Total of damage, emergency expenditures, and cost of necessary flood-control projects*

Flood damage (table V)	$545,436.00
Emergency municipal expenditures (see text)	10,711.51
Flood-control projects (table VI)	95,294.20
Grand total	651,441.71

It should be noted that the flood damage comprises 84 percent of the total estimated cost. Flood-control projects, a sizeable item for a city the size of Mankato (population 18,771, 1950 census) total about 15 percent. Less than 2 percent of the aggregate cost is accounted for in the emergency expenditures made by the government of this city.

(Hearings of Thursday, May 22, 1952 resumed.)

FLOOD CONDITIONS

Representative O'HARA. Mr. Chairman, I want to express my deep appreciation to the chairman for permitting me to testify today instead of tomorrow when I understand the Members of Congress are to testify. I have asked to be permitted to speak today because I made an engagement some 3 months ago that I have to keep tomorrow, and I deeply appreciate the Chairman's courtesy to me.

Mr. Chairman, the spring of 1951 brought serious flood conditions to the municipalities of Mankato and North Mankato, New Ulm, Henderson, Carver, Chaska, Shakopee, Savage, and Mendota (Clarkson Landing) on the Minnesota River and to South Saint Paul, Inver Grove, and Lilydale on the upper Mississippi River, and Springfield, on the Cottonwood River.

Chairman MCKELLAR. Lake Itasca is still up there, I take it?

Representative O'HARA. Yes, indeed. It is up north.

Chairman MCKELLAR. That is a name that attracted me while I was a boy in school.

Representative O'HARA. It is a beautiful lake.

At North Mankato—and I am speaking now of the 1951 flood—the entire population of about 5,000 people, with the exception of about 80 persons, was evacuated, and damages to residential and city improvements totaled in excess of $1,000,000.

At Mankato about 1,000 persons were evacuated, industries located near the river were flooded, and numerous business and residential basements were flooded.

Permit me to say that there are some defense plants at Mankota. Whether those engaged in defense work were actually flooded, I do not know specifically. But I do know that the working people were badly dislocated by the flood conditions, and that that affected our defense effort.

I am informed that the total 1951 flood loss suffered by the cities of North Mankato and Mankato was over $2,000,000 in damages. Those two cities made rather careful surveys of the damages which they sustained.

In 1951, at Chaska, 150 homes or over one-quarter of the town was evacuated with in excess of $441,000 for 1951–52 flood damages. A number of persons were evacuated from the other named municipalities. I have not received accurate information as to the exact number or amount of damages, but many thousands of dollars of damages were sustained at these places.

Following the 1951 flood the cities of Mankato and North Mankato, on the initiative of the respective municipalities, took action, to the extent of their financial limitations, in matters of flood control of these cities. As a result, when an equally serious flood condition arose in the spring of 1952, the damages were greatly reduced at these two cities; but the municipalities of Henderson, Carver, Chaska, Shakopee Savage, Mendota, New Ulm, Inver Grove, Lilydale, and Springfield suffered recurrent and substantial heavy damages either almost equal to the 1951 flood or, in some instances, with heavier damages.

SURVEY FUNDS REQUESTED

I appear before you to request, on behalf of the municipalities affected, funds for an interim-report survey by the United States engineers, the agency of the Government which is charged with the making of such survey reports. Such interim-survey reports are fundamentally needed for averting a repetition of the serious floods which have damaged these several municipalities during the flood years of 1951 and 1952.

While the cities of Mankato and North Mankato have taken such action for flood-control protection as they could within their financial limits, unquestionably additional and more extensive flood-control measures will have to be taken on the Minnesota River in the territory adjacent to these cities. No permanent flood-control action has been taken by the other municipalities, and they are likewise badly in need of such surveys as the basis of any steps that may be taken by these municipalities on their individual efforts.

Now, Mr. Chairman, in other words, these two cities—Mankato and North Mankato—did a magnificent job, to the extent of their ability.

HOUSE CUT

Chairman McKellar. The appropriation for this purpose was cut by the House.

Representative O'Hara. From $1,600,000 to $1,215,000.

Chairman McKellar. Wait one minute—it is $460,000, according to this record.

Representative O'HARA. Let me point out, Mr. Chairman, what happened.

When the hearings were held and I appeared before the Appropriations Subcommittee of the House, we had not had this terrible recurrent 1952 flood. We are now confronted with a situation, let me say, Mr. Chairman, where the budget says "No, you cannot have this money," and yet we have these recurrent damages which come on and are so serious that the Congress should do something about meeting the situation.

Now, if the chairman will bear with me for just a second, I want to show what happened in the House, and to which I violently disagreed.

The budget and the Engineers had requested this $1,600,000, naming specific places where the work was to be begun, which was proper.

The House, without picking out who was to be served, cut the appropriation and left the engineers and the areas affected in a sort of grab-bag operation, where nobody knows who is going to get their interim-survey work done.

Now, I am going to suggest, Mr. Chairman, most respectfully—and I do this with the knowledge of Senator Thye and Senator Humphrey—that with these recurrent flood conditions which we have, a larger sum, a much larger sum than the $1,600,000, should be given to the engineers, so that these surveys can be made.

Now, I will state specifically the amounts which I think are needed for these particular municipalities that I have mentioned—I am merely pointing out to the chairman the situation with which we, who are recurrent sufferers of this flood condition, are confronted with as a result of the action of the budget and then the action of the House, and I am appealing to the mercy of the Senate to do something about a very serious situation which confronts not only the people of my district, but people all over the country, who need these basic interim-survey reports, so that the cities can go ahead in conjunction with the engineers, and do what they can, which may in some instances have to be added to by Federal assistance.

The chairman will recognize the difficulty of a village or a city attempting to do what they can, because it should be in conformity with what is sound and what is recommended by the United States engineers.

Now, take the city of South St. Paul, which is on the upper Mississippi River. There are located there the third largest stockyards in the Nation. The stockyard was almost completely inundated in the flood season of 1951. Packing plants were forced to suspend operations for several weeks. The total losses were estimated to be about $310,000.

Chairman MCKELLAR. Was the stock drowned?

Representative O'HARA. No. The packing plants just had ceased operations.

Chairman MCKELLAR. All right; go ahead.

Representative O'HARA. They had to stop operations completely. They were closed up.

In the spring season of 1952, the Mississippi River adjacent to South St. Paul reached record flood conditions, even exceeding the flood level of 1951. I am informed that private industry in the stockyard area

expended over $500,000 of private funds in building a temporary dike to prevent the flooding of the stockyards area, and they were successful, Mr. Chairman, but that was a temporary dike, and it will not withstand, undoubtedly, the ravages of another serious flood. While, by heroic efforts, the yards were protected from flooding, the yards were closed for business for some time.

FUNDS FOR INTERIM SURVEYS

I am informed by the United States Engineers' Office here in Washington, that the following appropriations are necessary before the United States engineers can make the interim survey of the respective flooded areas:

Mankato-North Mankato area, $20,000;

South St. Paul area, including Inver Grove, Lilydale, $20,000;

Henderson, Carver, Chaska, Shakopee, Savage, and Mendota, $50,000;

New Ulm and Springfield, $5,000.

I have not obtained estimates from the United States Engineers' Office as to survey costs at New Ulm and Springfield, and I would estimate the cost of such survey at both these municipalities at $5,000. I have taken the liberty, Mr. Chairman, of estimating those costs, because each of those respective communities is in need of this, just as the other communities are.

Now, in connection with the flooded areas of South St. Paul, Inver Grove, and Lilydale, the flood stage of the Mississippi in that area was the worst in the history of the upper Mississippi, the highest flood level known in history.

Mr. Chairman, I therefore urge and request that these sums be appropriated for the interim-survey reports of the areas named and designated above.

I want to state to the chairman that I am informed that there is authority in law for all of these surveys by previous authorities given by the Congress.

I asked for a flood survey back in 1943 for the Minnesota River, and I think to that was added the Cottonwood and some other rivers, so I am positive, in speaking to you, that there is authority in law for these surveys.

Chairman McKellar. Is that correct, General?

General Chorpening. That is correct, sir. We have authorization for these surveys now.

Representative O'Hara. The only thing now is that we must get the money.

Mr. Chairman, I want to say in respect to the Engineers' Office, both here at Washington and at South St. Paul, that they have been most cooperative in doing what they can, but we, as the representatives of the people, are confronted with this dire need of these little pittances, to get this program under way, recognizing that we are not going to ask the Federal Government to come in there and build all of these dikes and protective works to protect from flood damage. These cities and villages will do what they can, but they must have something in the way of surveys to find out what our experienced engineers recommend as a complete program for these places.

Mr. Chairman, I am deeply grateful to you for your indulgence and your patience in listening to me. I assure you that there is nothing that troubles me more, and that is more pressing, than the disaster and the tragedy which has come to the people of all of these communities. I have a whole file of pictures, but, Mr. Chairman, they look just like all of the other places do that are flooded with water, and, in many instances, in these pictures, up to the roof level. There is only one difference up there. In March and April the water is just as deep at high flood stage as it is any place else in the country. But it is a little colder. It is mighty cold up there at that time.

I do hope that the Senate may be able, in this program, to give us some immediate relief. It is not going to do much good if we have to wait 2 or 3 years for it. What we need is a survey just as quickly as the money can be obtained.

1953 BUDGET ESTIMATE

Now, the only thing that has been authorized by the budget is $25,000 to complete surveys on the Minnesota River. That is not sufficient for the needs of our purpose. In fairness, the Budget could not have known about this flood when the recommendations were made, because those recommendations were made before the recurrent 1952 floods.

I thank you very much, sir.

Chairman McKellar. We are very much obliged to you, sir.

(Information subsequently submitted by Representative O'Hara follows:)

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D. C., May 26, 1952.

Hon. KENNETH MCKELLAR,
Chairman, Committee on Appropriations,
United States Senate, Washington, D. C.

MY DEAR SENATOR: In connection with my testimony before you last Thursday, I have since received from Mr. R. T. Schaeffer, who is national director of disaster services, the American National Red Cross, certain information pertaining to the large amount of damages and other results of the flood in Minnesota.

While the information as to payments made by the Red Cross for flood-relief operations in Minnesota is not to be confused with the total actual damages sustained, it is helpful by showing the extent to which that one organization has made contributions to some of the individuals affected by the flood, and it illustrates the wide extent of the damages in that area.

I would deeply appreciate it if this letter and the enclosures might be made a part of my testimony.

Sincerely yours,

JOSEPH P. O'HARA, M. C.

American National Red Cross—Upper Mississippi Valley flood of 1952, summary of flood damage in 8 Minnesota counties

	Blue Earth and Nicollet Counties	Carver County	Dakota County	Scott County	Sibley County	Brown County	Le Sueur County
Number of families suffering loss	100	134	[1] 1,600	15	10	10	4
Number of homes destroyed			32				
Number of homes damaged	100	132	1,028	20	8	8	3
Number of other buildings destroyed			17				
Number of other buildings damaged		19	55	13		0	6
Estimated number of applicants for rehabilitation assistance	15	65	750	6	1	2	2

[1] About 400 of these families were evacuated by the Red Cross. Many others found shelter outside their homes without applying for assistance.

American National Red Cross—Statistical summary of flood relief operations in Minnesota

	1951	1952 [1]
Counties affected—number	18	15
Persons killed—do	2	2
Persons injured—do	42	3
Families suffering loss—do	4,681	2,954
Homes destroyed—do	5	43
Homes damaged—do	3,284	2,152
Families assisted—do	2,620	1,390
Expenditures by classification of relief:		
Rescue, transportation and mass care	$15,330	$11,700
Food, clothing and other maintenance	60,305	30,807
Building and repair	123,006	121,150
Household furnishings	66,271	47,150
Medical, nursing and sanitation	2,550	1,550
Farm supplies, livestock and equipment	941	1,830
Occupational training, equipment and supplies	745	5,025
Subtotal for relief	269,148	219,212
Family Service Administration and Accounting	56,888	25,000
Grand total	326,036	244,212

[1] Estimate (upper Mississippi Valley flood).

THE AMERICAN NATIONAL RED CROSS,
NATIONAL HEADQUARTERS,
Washington 13, D. C., May 21, 1952.

Representative JOSEPH P. O'HARA,
The House of Representatives,
Washington, D. C.

MY DEAR REPRESENTATIVE O'HARA: In reply to your request for information in regard to flood damage in Minnesota counties included in your congressional district, we are glad to furnish the attached summarized statistical statement. I regret exceedingly that we are unable to break down these figures by the individual communities within these counties because our data are not compiled on this basis and we did not have sufficient time at our disposal to resurvey the area in order to make the requested analysis.

In addition to the summary by counties, we are also including a summarized statement of flood relief operations in the State of Minnesota (1951 and 1952).

In 1951, the Minnesota and Mississippi Rivers and their tributaries flooded 18 counties.

Our present relief operations in Minnesota cover counties in the upper Mississippi Valley. Headquarters for this operation has been established in the Globe

Building at St. Paul under the general direction of Mr. Ralph Brandt, who is the Director of Disaster Services for the Eastern Area. Latest reports from the field indicate that at the present 1,048 families have applied to the Red Cross for rehabilitation aid. Over 500 cases have already been closed and we have expended in excess of $100,000 of the more than $244,000 that we anticipate will be required.

Very sincerely yours,

R. T. SCHAEFFER,
National Director, Disaster Services.

Chairman MCKELLAR. There will be placed in the record at this point testimony with respect to the Rio Grande flood-control project in New Mexico.

STATEMENT OF BRIG. GEN. C. A. CHORPENING, ASSISTANT CHIEF OF ENGINEERS FOR CIVIL WORKS, CORPS OF ENGINEERS, UNITED STATES ARMY

FLOOD CONTROL PROJECTS

General CHORPENING. I am Brig. Gen. C. A. Chorpening, Assistant Chief of Engineers for Civil Works.

As has been brought out so well by Senator Chavez and Congressman Dempsey, and other witnesses, the project on the Rio Grande is a comprehensive project developed between the Bureau of Reclamation and the Army engineers and authorized by the Congress in the Flood Control Acts of 1948 and 1950.

FLOOD DAMS

The parts of that project to be performed by the Corps of Engineers are four, as authorized. They are the Chamita Reservoir, the Jemez Canyon Reservoir, the Bluewater floodway, and the Rio Grande floodway.

The Chamita Reservoir and the Jemez Canyon Reservoir each includes flood control storage, and also, and very importantly, silt storage. I mention the silt storage particularly because it is so closely related to the work that has been discussed here this morning by the representatives of the Bureau of Reclamation.

CHANNELIZATION PROJECT

To clean out the channel so that the water will flow down and still have the silt from upstream come down is just going to greatly increase the extent of maintenance of any work that is done on the channel.

The reservoirs are very important in that respect. Also keeping floodwaters out of the channel will protect that work.

I believe that it would be interesting to the committee, sir, to very briefly indicate the progress that has been made to date on those portions of the project that we have underway.

Senator CHAVEZ. I wish you would, for this reason: I do not want to bring these poor people up here again from New Mexico. We will use this evidence at the time that we consider the Army engineers items.

Senator HAYDEN. I think that would be entirely proper.

JEMEZ DAM EXPENDITURES AND BUDGET REQUEST

General CHORPENING. For the Jemez Canyon Reservoir Congress has appropriated $2,150,000 up to this time. The Corps of Engineers asked the Bureau of the Budget for $2,310,000 for fiscal year 1953, which was approved by the Bureau of the Budget and which if appropriated will complete that very essential unit of the over-all project.

Senator CHAVEZ. You will get through with it?

General CHORPENING. Yes, sir.

However, the House allowed $2 million or $310,000 short of what is required. That $310,000 is very badly needed to protect the Santa Ana Indian Pueblo.

Senator CHAVEZ. And to finish the job?

General CHORPENING. Yes, and to finish the job.

Unless we are able to put in that protection we would not be able to fully utilize the reservoir and get the benefits for funds that have been expended by the Federal Government.

We, therefore, strongly urge that that cut be restored by the Senate committee.

Representative DEMPSEY. General, I take it that you do not feel that it was the economic thing to do to make that cut?

General CHORPENING. No, sir, I do not.

Representative DEMPSEY. I agree with you, sir.

PLANNING FUNDS

General CHORPENING. We have had some planning funds for the Chamita Reservoir, and we have had a small amount of planning funds on the Rio Grande floodway. For fiscal year 1953, we have asked for $85,000 additional planning funds for the Chamita Reservoir, and $10,000 for the Rio Grande floodway.

Senator CHAVEZ. What did the Bureau of the Budget do on that?

General CHORPENING. That was allowed by the Bureau of the Budget, sir. All planning funds that were requested by us were eliminated, however, by the action of the House.

Senator CHAVEZ. Notwithstanding the Bureau of the Budget's approval?

General CHORPENING. That is correct, sir.

I may say further that as has been mentioned here we have a great potential flood threat on the Rio Grande this year.

Senator CHAVEZ. I wish you would tell us about that.

General CHORPENING. There is a heavier snow cover in the mountains now than perhaps has ever existed there—certainly one of the heaviest snowfalls of record.

Senator CHAVEZ. My information from the Weather Bureau is that it is a little better than twice the reports of the snows in the past up in northern New Mexico.

Senator HAYDEN. And those reports run back for quite a few years.

Senator CHAVEZ. I understand that at Cumbres Pass they have possibly twice as much snow and more than the records of the past show.

General CHORPENING. Yes, sir; and that is of great concern to us.

Senator HAYDEN. A warm rain would bring it off.

General CHORPENING. A warm rain would bring it off in a hurry and there would be very serious flood damage. There is no way to get around that.

Senator CHAVEZ. At that point, suppose that happens and we do not go through with the money to complete the channelization, what would the flood hazard be under those conditions?

If we had the channelization completed, would not the water go into the lake instead of spreading out as a flood hazard?

General CHORPENING. The water will have an opportunity to get away faster and therefore reduce the flood heights.

We have been working very closely with local officials so that our organization will be able to do everything possible in the event a flood happens.

Senator CHAVEZ. You are getting ready for an emergency of doing something to avoid the emergency?

General CHORPENING. That is correct, sir.

KANSAS AND MISSOURI FLOODS

Senator CHAVEZ. We all feel sorry for the people in Missouri and in Kansas who last year suffered as a result of the floods there. Yet they feel the thing to have done would have been to have avoided the flood.

General CHORPENING. That is absolutely correct.

Senator CHAVEZ. Is not the situation so far as the Jemez Reservoir and the Chamita Reservoir are concerned more or less like the situation with respect to Garrison Dam and Fort Randall Dam in Missouri?

General CHORPENING. It is exactly parallel, sir.

Senator CHAVEZ. Professional people in Missouri have told me that if they had been able to close the Fort Randall and the Garrison Dams, the gaps that are not finished, they would not have had that flood which probably meant $350 million of losses in Missouri.

General CHORPENING. I can make this statement, that if the dams now under construction had been completed on the Missouri River there would have been no flood on the Missouri River.

Senator HAYDEN. That is how much of the peak would have been taken off?

General CHORPENING. At Omaha where the flood reached a stage of 30⅞ feet, it would have been reduced to about 17 feet, which is about 2 feet below bank full stage.

Senator CHAVEZ. That is the story. And that can happen in the Rio Grande?

General CHORPENING. It can happen just as well there unless this work is gone ahead with and completed.

Senator CHAVEZ. Thank you, General Chorpening.

Senator, did you want to ask the general any questions?

Senator HAYDEN. No; I think the general has made the situation perfectly clear.

Senator CHAVEZ. Congressman Dempsey, do you have any questions?

Representative Dempsey. No.

Senator HAYDEN. General Chorpening's testimony ought to be available to the committee on the civil functions bill

Senator CHAVEZ. I have asked that when the proper time comes the record of today with respect to the flood end of it be made available to the other subcommittee.

General CHORPENING. Will you wish anything further of me, Senator?

Senator CHAVEZ. No; thank you, General. I appreciate it very, very much. If you care to insert anything else in the record that may be of advantage to the committee, we will appreciate it.

General CHORPENING. Yes, sir.

Senator CHAVEZ. The record will not be closed for some time.

General CHORPENING. Yes, sir.

STATEMENT OF ANGUS EVANS, ESPANOLA, N. MEX., REPRESENTING THE ESPANOLA CHAMBER OF COMMERCE

CHAMITA DAM, N. MEX.

Senator CHAVEZ. Our next witness is Mr. Evans.

Mr. EVANS. My name is Angus Evans of Espanola, N. Mex.

Senator CHAVEZ. Will you more or less describe where Espanola is located with reference to the Rio Grande, the geographical location?

Mr. EVANS. Yes, sir.

FLOOD DANGER AT ESPANOLA, N. MEX.

Espanola lies just below the junction of the Chama River and the Rio Grande. It is a little community serving approximately an area which takes in perhaps some 35,000 people.

Senator CHAVEZ. And includes Los Alamos?

Mr. EVANS. Including Los Alamos.

Having been born and raised in New Mexico and in Espanola, I have seen these past floods, the floods of 1912, of 1929, and of 1941, and I have seen the devastation that they have created.

We at Espanola at the present time are preparing for what we hope does not happen.

Senator CHAVEZ. Mr. Evans, in order to get oriented up here with reference to Espanola, this is Santa Fe, the State capital, and this is Buckman. Across the river from there is the area that is now composed of the Los Alamos Atomic Energy Commission plant.

This is Espanola which is the distributing point for that area?

Mr. EVANS. That is correct.

Senator CHAVEZ. Within a few miles of Espanola on the Chama River is the Chamita Dam site. You feel that the Chamita Dam would be of some protection for floods as far as Espanola is concerned?

Mr. EVANS. We feel that if Chamita Dam is built our flood hazard would be over.

Senator CHAVEZ. North of Espanola is it not a fact that all along the river, both the Rio Grande and the Chama, there are little villages which are rather heavily populated?

Mr. EVANS. That is right.

Senator CHAVEZ. North of Espanola you have Abiqui on the Chama River and you have Velarde on the Rio Grande River.

Then where the Chama and the Rio Grande Rivers come together you continue with a heavily populated area?

Mr. EVANS.

Senator CHAVEZ. Anyway, it is a settled valley?

Mr. EVANS. That is correct.

We also feel in our area, as General Chorpening stated a few minutes ago, that to complete the project Chamita Dam definitely should be built in order to stop this siltation. We are in the same position right now that Albuquerque is in.

Senator CHAVEZ. As far as Espanola is concerned, the only help that you can possibly get in connection with a flood hazard is from Chamita Dam?

Mr. EVANS. That is correct.

Senator CHAVEZ. And Jemez dam site is below that. That will help below Espanola.

But as far as Espanola and the Espanola Valley is concerned, the only help that you can get is from the Chamita Dam?

Mr. EVANS. That is correct, sir.

Senator CHAVEZ. And it would probably be cheap eventually to construct that dam?

Mr. EVANS. That is right.

Senator CHAVEZ. Now, how do the people feel about it? What are your folks there doing? Tell us briefly. We are very informal here. What is the state of the minds of the people of your community?

CHANNELIZATION OF RIO GRANDE

Mr. EVANS. Fortunately our State officials thoroughly realize the conditions that exist, and at the present time they are doing everything they can in channelizing from the Espanola Bridge north, in order to keep the river in the main channel.

However, we were a little late in getting started, and I am afraid that it might have been too late.

Senator CHAVEZ. Now, I take it that it is the snow that we have been talking about in the Cumbres Pass near the Colorado-New Mexico line that you are afraid of?

Mr. EVANS. That is right.

Senator CHAVEZ. Where they probably have more than twice as much snow as they have ever had before.

Mr. EVANS. More than has ever been known in history.

Senator CHAVEZ. Is there anything further?

Mr. EVANS. I believe that covers it.

Senator CHAVEZ. And that is your story?

Mr. EVANS. There is one thing further. At the present time I understand that they are planning a big power plant there at Espanola. They have just completed a high school costing approximately half a million dollars which the Government has participated in in order to help out with the influx that has come in of workers who work at the Los Alamos plant.

That whole area is very vital to Los Alamos because that is the entrance to Los Alamos.

Senator CHAVEZ. That is right. Not only has there been a school completed at Espanola, but we have just dedicated a school in the vicinity last Sunday in which the Government participated due to the impact of the new residents.

Mr. EVANS. That is right.

Senator CHAVEZ. What is the population of Los Alamos now?

Mr. EVANS. Approximately 13,000, I believe.

Senator CHAVEZ. It is a big enterprise, Senator Hayden.

Representative DEMPSEY. And Espanola is the biggest town of any consequence nearby?

Mr. EVANS. It is the closest town.

Senator CHAVEZ. Thank you, Mr. Evans.

STATEMENT OF AUSTIN LOVETT, BELEN, N. MEX., REPRESENTING THE BELEN CHAMBER OF COMMERCE

FLOOD CONDITIONS

Senator CHAVEZ. Our next witness is Mr. Austin Lovett, of Belen.

Mr. LOVETT. My name is Austin Lovett and I am from Belen, N. Mex., which is about 30 miles south of Albuquerque, N. Mex. I represent more or less the people in that district, the chamber of commerce, and the businessmen.

Some years ago the people became very alarmed about the conditions with respect to the flood hazard and the fact that there were not enough dams to control it and to hold the water and to use it when the farmers needed it.

In that area we became quite interested in forming an organization which was formed and which was called the Middle Rio Grande Flood Control Association.

We had members from San Antonio in the south, to Espanola on the north, who felt that the concerted action of all of the citizens along there, I believe a 150-mile area, was in order because we were alarmed.

Senator CHAVEZ. The only reason for the organization was the concern of the people of the valley from Espanola on the north clear to San Marcial on the south?

Mr. LOVETT. That is right.

Senator CHAVEZ. Is not that the reason for the organization?

Mr. LOVETT. That is right.

Senator CHAVEZ. You were concerned about flood conditions, about water for irrigation, and things of that type?

Mr. LOVETT. That is right, Mr. Chairman.

Senator CHAVEZ. And you belong to that association?

Mr. LOVETT. I was its first president and am still a member of the board of directors. I happen to be manager of a general store which is 75 years old this year. We handle all kinds of merchandise.

I feel that if we cannot control the river or if we do have a flood the economy is ruined in that area. So that is our No. 1 thought.

Senator CHAVEZ. Well, now, do you not also feel this way: That evidently Congress was sold on the idea and the administration was sold on the idea because they approved the project?

Mr. LOVETT. That is right.

Senator CHAVEZ. Now the question is to try to get it concluded as fast as we possibly can?

Mr. LOVETT. That is correct.

Senator CHAVEZ. Is not that the problem?

Mr. LOVETT. That is correct.

FLOOD PROTECTION FOR VALLEY FARM LANDS

Senator HAYDEN. This much would be true; I am talking about the Federal Government getting its money back. If you had a flood in the Rio Grande Valley, the damage to the property owners who are Federal taxpayers would be charged off as a loss, and the Government would not collect any income taxes, income taxes that the Federal Government would collect if there had been no flood.

Mr. LOVETT. That is right.

Senator HAYDEN. And so if you put in flood-protection works that protected the area from the flood, you would get your money back in the increased prosperity in the area that lies below and the continued prosperity.

Senator CHAVEZ. Senator, right in the breadbasket of America—Missouri—there are 2 million acres that are not going to pay one penny of income tax this year.

Mr. LOVETT. Our two sources of revenue in that particular area on the Rio Grande are, first, the farmers. If they prosper, the businessmen prosper.

We are on the Santa Fe Railroad, the crossroads of the Santa Fe Railroad, which goes on to the West and Los Angeles.

Senator HAYDEN. You are at what they call the Belen cut-off?

Mr. LOVETT. That is right. The railroad goes on to Denver and El Paso and points in the East.

Representative DEMPSEY. Belen is a very important railroad center.

Mr. LOVETT. The railroad is our second source of revenue.

Senator CHAVEZ. Is it not also correct that the utilities necessary to keep up the national-defense activities at Albuquerque and Los Alamos are all dependent upon the safety of the utilities on the valley?

Mr. LOVETT. That is correct.

Senator CHAVEZ. You have your gas lines there; you have your automobile highways, and you have your railroads there.

Mr. LOVETT. That is correct, Senator. The main highway is Highway 85 which goes right through Belen.

Senator CHAVEZ. Thank you, sir.

STATEMENT OF JOHN L. GREGG, MANAGER, ELEPHANT BUTTE IRRIGATION DISTRICT, LOS CRUCES, N. MEX.

RIO GRANDE IRRIGATION DISTRICT

Senator CHAVEZ. Our next witness is Mr. Gregg.

For the record, Mr. Gregg, will you identify yourself, please?

Mr. GREGG. My name is John L. Gregg, and I am manager of the Elephant Butte irrigation district located in Los Cruces, N. Mex.

I would like to submit a formal statement and a letter for the record, supplemented by a brief oral statement concerning the points that are vital to my district.

The Elephant Butte irrigation district is part of the Rio Grande over-all irrigation district.

Senator CHAVEZ. That is the New Mexico end of it?

Mr. GREGG. Yes, sir; the New Mexico portion of the Rio Grande Federal irrigation project.

Senator CHAVEZ. That is officially named the Rio Grande irrigation district and then is subdivided into the Elephant Butte irrigation district, which is the New Mexico end of it and the El Paso water improvement district on the Texas side?

ELEPHANT BUTTE IRRIGATION DISTRICT

Mr. GREGG. The official name of the project is the Rio Grande project, and the official name of the district is the Elephant Butte irrigation district.

The Elephant Butte irrigation district obtains its water supply from the Rio Grande through storage at Elephant Butte Reservoir. It contains about 88,000 acres and there is in addition 67,000 acres in the Rio Grande project in the El Paso district in Texas.

I appear before this committee in support of the appropriations that are needed to complete the channelization of the Rio Grande in the vicinity of the San Marcial area north of Elephant Butte Reservoir. This channelization is now under way with funds available only for the lower 21-mile section.

SILT DEPOSITS IN RIVER BED

Appropriations are needed for the upper section which consists of 17 miles of channel and floodway together with the necessary headworks.

Senator HAYDEN. Let me inquire as to the physical features there.

Was it the backwater from the Elephant Butte Dam that caused the deposit of silt in this strip that they now propose to channelize, or was the excess silt deposited in the normal way because the grade of the river was not enough?

Mr. GREGG. It was a combination of several circumstances. The inflow of sediment from above was a factor. Perhaps the backwater from Elephant Butte played a part at various times.

But principally the reason was the heavy floods that came down the river from the north which destroyed the channel of the river.

The destruction of the channel has caused the flow of the river to spread out over the valley floor, resulting in the loss of a considerable amount of water through seepage, evaporation, and the taking up of water by various types of plants.

Senator CHAVEZ. You mean plants such as the salt cedar?

Mr. GREGG. The salt cedar and other forms of heavy water-consuming plants.

Senator HAYDEN. And they really take up vast amounts of water, as we have found in Arizona.

RIO PUERCO WATERSHED

Senator CHAVEZ. Senator, if you will turn back to this large map, you will note that the dirty work is due to the Rio Puerco. It has a tremendous drainage area and carries a lot of silt into the Rio Grande.

Part of the over-all plan as the project is designed would be to tryto take care of that silt.

Now, with reference to the debt to the State of Texas, will you explain briefly to the committee, Mr. Gregg, this proposition of our debt to the lower valley in New Mexico and to the State of Texas under the compact and how the channelization will affect that debt.

OBLIGATIONS UNDER RIO GRANDE WATER COMPACT

Mr. GREGG. Under the terms of the Rio Grande compact, the State of New Mexico is obligated to make certain water deliveries to the State of Texas at Elephant Butte.

Presently because of the condition of the San Marcial area where the water losses are tremendous, the State of New Mexico has been unable to make these deliveries as prescribed by the compact.

As a result, during the last 9 years a debt of 332,000 acre-feet has been accumulated by the State of New Mexico owed to the State of Texas. There is little hope of this debt being paid until such time as the San Marcial channelization is completed and the tremendous losses which amount to a minimum of 140,000 acre-feet per year are brought to an end.

SAN MARCIAL CHANNELIZATION

We feel that the completion of the San Marcial channelization will mark a very long step toward placing the State of New Mexico on the credit side of the ledger in the matter of water deliveries to the State of Texas for the benefit of the Rio Grande project below Elephant Butte.

Senator CHAVEZ. Mr. Gregg, I feel confident that you understand the problem well. Would not the completion of the middle Rio Grande project do more in order to pay that debt due Texas by New Mexico than all of the lawsuits in the Supreme Court? The decision of the Supreme Court would not deliver 1 acre-foot of water until this project is completed. Is that not correct?

Mr. GREGG. Mr. Chairman, we feel that the physical condition of the river above Elephant Butte is largely responsible, and that the only way for the water to be made available is for the physical condition to be corrected by the construction of the San Marcial channelization as well as the other features of the middle Rio Grande project.

Senator HAYDEN. My understanding is that at the time Elephant Butte Dam was built, there were certain lands under cultivation in Texas and there were certain lands in cultivation in New Mexico, and the water of the river had been used in both States, and that there was an interstate compact approved by the Congress dividing the available water of the river between the two States.

New Mexico agreed to let down to Texas a certain quantity of water each year. Now, that has been physically impossible on account of the situation that you have described, and you have accumulated a debt, you say, of some 300,000 acre-feet?

Mr. GREGG. It is 332,000 acre-feet.

Senator HAYDEN. You could not pay that in 1 year?

Mr. GREGG. Certainly not.

Senator HAYDEN. It would not be practical for Texas to take it in 1 year?

Mr. GREGG. It would depend upon the available storage capacity in Elephant Butte. However, it would probably be impossible for New Mexico to make delivery in a single year.

Senator HAYDEN. It would seem to be mutually advantageous to the two States to have the water returned over a period of years to come. There would not be any difficulty about that if you have the water.

Mr. GREGG. That is right, sir.

PROBLEM OF SUPPLY OF WATER FOR STORAGE

Senator CHAVEZ. And if you can get the water into the lake.

Mr. GREGG. That is right, sir.

Senator HAYDEN. If you could get the water into the reservoir in quantity to meet the debt from year to year, why, there would be no trouble in solving the problem.

I feel just as Senator Chavez does. He said that a decision of the Supreme Court would not put any water into the State of Texas. I do not think that a decision of the Supreme Court would put as much moisture into the State of Texas as there is in the ink used by the judges in signing the decision.

Representative DEMPSEY. In addition to the States of New Mexico and Texas, Mexico, under the treaty, gets 60,000 acre-feet as specified over a period of 9 months.

Senator CHAVEZ. And we lose more water from the siltation than twice the amount we are obligated to deliver to Mexico. The loss is at least 140,000 acre-feet per year, as I believe Mr. Thompson said.

Senator HAYDEN. We have the same court problem in Arizona. The Pima Indians live on the Gila River and were the only users of the water at one time. With the coming of the Americans the water was diverted upstream.

When I came in there, we were considering starting a lawsuit to sue all of the users of the water above for the water loss sustained.

I argued before the committee and convinced them that, in the first place, you could not enforce a suit like that over a stretch of country 200 miles long. You would have to have a regiment of cavalry riding up and down to watch all of the diversion gates because farmers, seeing their land parched and burning, would steal water in order to save themselves.

It was at about that time that a dam was constructed and the storage of water was provided so that equating the flow of the stream takes care of the situation in normal times.

That is your situation here. These engineering works are absolutely essential in order to carry out and deliver the water to its proper appropriators in New Mexico and Texas.

There is no other way to handle it.

Representative DEMPSEY. We could make a great contribution if we could use the water now stored in the form of snow in the mountains when it comes down.

Senator CHAVEZ. Thank you, Mr. Gregg.
(The prepared statement of Mr. Gregg follows:)

STATEMENT SUBMITTED BY THE ELEPHANT BUTTE IRRIGATION DISTRICT, LAS CRUCES, N. MEX.

My name is John L. Gregg. I am the manager of the Elephant Butte Irrigation District which is the New Mexico portion of the Rio Grande project, a Federal reclamation project located on the Rio Grande in south central New Mexico and west Texas. I make this statement on behalf of the district. The district obtains its water supply from the flow of the Rio Grande which is stored in Elephant Butte Reservoir located 125 miles north of El Paso, Tex. The district contains 88,000 acres of highly productive farm land and supports a combined rural and urban population of 35,000. An additional 67,000 acres are located in the Texas portion of the Rio Grande project.

Completion of the channelization of the Rio Grande, a feature of the authorized Middle Rio Grande project now under way in the San Marcial area north of Elephant Butte Dam, is a matter of vital concern to the people in the Elephant Butte Irrigation District because it will materially reduce the heavy loss of water that now occurs in the San Marcial area. This loss is estimated to be 140,000 acre-feet per year, or 13 percent of the average annual flow of the river through the area. This water is badly needed for irrigation purposes. These losses seriously threaten the welfare of irrigated areas located both above and below Elephant Butte Dam.

The water loss in the San Marcial area is caused by the destruction of portions of the river channel by floods, and by deposition of sediment, within a 35-mile section of the Rio Grande Valley extending northward from a point 20 miles upstream from Elephant Butte Dam. In five different areas where the natural channel has been destroyed dense masses of vegetation have grown up across the valley floor, and stream-borne sediment has been caught and retained. The result has been the development of natural barriers across the valley that cause stream flow to spread out over the valley floor where it is lost through evaporation and plant transpiration. These areas must be saturated before outflow occurs at the lower end.

To the people living on the Rio Grande project south of Elephant Butte Dam the steadily increasing water losses in the San Marcial area present a serious threat to their limited irrigation supply. There is much at stake in this matter below Elephant Butte. On the farms and in the towns within the Elephant Butte Irrigation District live 35,000 people, most of whom are directly dependent upon the maintenance of full crop production for their livelihoods. Additional thousands of people live in the Texas portion of the project in the vicinity of El Paso. The Rio Grande project in New Mexico and west Texas contains 155,000 acres of highly productive land that yielded crops valued at $46 million in 1951. Project property values directly dependent upon the maintenance of an adequate water supply are conservatively estimated at $85 million. Steadily increasing water losses in the San Marcial area mean a gradual reduction in the water supply available for the Rio Grande project. Reduction in water supply means economic strangulation.

To the people living on the farms in the Rio Grande Valley north of Elephant Butte, the solution of the San Marcial problem will eliminate the principal reason for the steady increase in the water debt owed by the State of New Mexico to the State of Texas. Under the terms of the Rio Grande compact, the State of New Mexico is obligated to make certain water deliveries to Elephant Butte Reservoir for the use of Rio Grande project lands. New Mexico has been unable to do this, largely because of the heavy losses that occur in the San Marcial area. The water debt now amounts to 332,000 acre-feet. It has accumulated during the 9-year period from 1943 to 1951. At the same time, the people below Elephant Butte have been deprived of the use of the substantial amount of water lost in the San Marcial area during a particularly critical drought period. The situation presents a grave threat to the welfare of the agricultural areas both north and south of Elephant Butte.

The plan developed by the Bureau of Reclamation to bring the San Marcial situation under control, and to reduce the heavy loss of water that now occurs, is to construct a 38-mile artificial channel of 2,000 cubic feet per second capacity, and the clearing of a floodway on the valley floor for the conveyance of larger flows. The first phase of this work, consisting of a 21-mile lower section, is now under way and funds are available for its completion. Channelization of the 17-mile upper section is necessary to complete the job. Both lower and upper

sections are necessary parts of the same job. The lower section will be of little permanent value unless the upper section is constructed. Before the San Marcial channelization project can properly function, the upper section must be constructed through an area where heavy water losses now occur, and it must be tied into the natural river channel above so that ordinary flows can be handled by the constructed channel and flood flows can be diverted into the floodway. Failure to construct the upper section will leave a half-completed job that will not serve its intended purpose, and which will not reduce the water losses that now deplete the limited water supplies of the irrigated areas dependent upon the Rio Grande. Permit me to repeat that the San Marcial channelization is a job that is now under way. Funds spent to date will be largely wasted unless the job is completed. It does not seem logical to leave the San Marcial channelization unfinished when so much depends upon its prompt completion.

The estimated cost of the entire San Marcial channelization project is $4 million, including $1½ million already available for the first section. The investment of this sum will reduce water losses that threaten the welfare of irrigated areas both north and south of Elephant Butte Dam. Crop losses on the Rio Grande project resulting from reduction of water supply due to losses in the San Marcial area could, in 1 year's time, exceed the entire cost of the channelization project. The cumulative effect of such losses over a period of years could exceed the total cost of the channelization work by many times. The San Marcial situation is growing worse and water losses will steadily increase. A bad situation today will become a worse situation tomorrow with steadily decreasing crop production along the Rio Grande due to unnecessary and preventable depletion of the irrigation water supply. Funds were made available a year ago for the lower section of the channelization work because the critical need for eliminating unnecessary water losses and for making the water available to irrigated areas was recognized. That need is even more critical today. We are asking for the completion of work, now under way, that will assure irrigated areas along the Rio Grande and adequate irrigation water supply necessary to sustain the agricultural economy of the Rio Grande Valley of New Mexico.

ELEPHANT BUTTE IRRIGATION DISTRICT OF NEW MEXICO,
Las Cruces, N. Mex., February 23, 1952.

Senator DENNIS CHAVEZ,
United States Senate, Washington, D. C.

DEAR SENATOR CHAVEZ: The following statement is presented in support of our request that funds be made available for completion of the San Marcial channelization work. Please see that it reaches those who will participate in making the decision concerning this matter.

The San Marcial channelization project, which is a feature of the authorized middle Rio Grande project, begins about 20 miles north of Elephant Butte Dam and extends northward through the Rio Grande Valley to the vicinity of the town of San Antonio, N. Mex., a total distance of approximately 38 miles. Construction began at the south end of the channel in October 1951. Available funds are sufficient only for the construction of 21 miles out of a required total of 38 miles for the complete channelization project.

The primary purpose of the San Marcial channelization project is to eliminate a heavy loss of water that now occurs in that section of the Rio Grande Valley of New Mexico through which the constructed channel is planned to extend. Such loss is caused by the fact that sections of the natural channel of the Rio Grande have been gradually destroyed by floods that have occurred during the past 25 years. Gradual destruction of sections of the natural channel has caused both normal and flood flows of the river to spread out over the valley floor where a heavy loss of water occurs through evaporation, plant transpiration, and the maintenance of a high water table. This loss has been further increased by the growth of a dense mass of vegetation throughout practically the entire 38-mile section of river valley and reservoir area included within the San Marcial channelization project. This vegetation, which consists of willow, cottonwood, salt cedar, tules, and other heavy water-consuming trees, shrubs, and plants, is particularly heavy in areas where the natural channel has been destroyed. Such vegetation obstructs the flow of water and traps sediment that is present in stream flow. The result has been that obstructed, or "plugged" areas have been built up in sections of the valley where the natural channel has been destroyed. These areas have the same effect as gigantic sponges through which both normal and flood flows of the Rio Grande must penetrate in order to reach Elephant Butte Reservoir.

Total water losses in the San Marcial area of the Rio Grande Valley of New Mexico are estimated to amount to 140,000 acre-feet annually. Unless the present situation is promptly corrected, it will continue to rapidly grow worse.

The supply of water available for irrigation purposes in the Rio Grande Valley of New Mexico has been fully appropriated and put to beneficial use. The supply is hardly adequate under normal conditions and without the heavy loss that occurs in the San Marcial area. There is no surplus of water in the Rio Grande Valley of New Mexico. Irrigated areas, both north and south of Elephant Butte, that are dependent upon the Rio Grande for an adequate supply of irrigation water are faced with a problem that will, unless solved without delay, undermine the agricultural economy of the entire Rio Grande Valley of New Mexico.

The Rio Grande project (New Mexico-Texas) of which the Elephant Butte irrigation district is a part, is situated below Elephant Butte Reservoir and is completely dependent upon the flow of the Rio Grande for irrigation water. The project contains 155,000 acres of highly developed land that produces annual crops valued at more than 40 millions of dollars. Any reduction in the amount of water available to the Rio Grande project will cause a corresponding decrease in crop production. Crop loss, in 1 year alone, on the Rio Grande project, due to restricted water supply, could exceed the cost of completing the San Marcial channelization work by several times. Cumulative losses over a period of years, due to a permanently reduced water supply, caused by avoidable upstream loss of water, would exceed the entire cost of the San Marcial channelization work by many times.

In addition to, and more important than, the financial loss is the effect of a permanently reduced water supply upon the people living in an irrigated area who are directly dependent upon the maintenance of normal crop production. In an arid region, where agriculture is completely dependent upon irrigation, partial failure of the water supply means abandonment of cultivated land, decreased tax revenues, closed businesses, and forced migration of people to other areas.

Completion of only the lower 21-mile section of channel now under construction in the San Marcial area will fail to solve the problem that faces the people living in the Rio Grande Valley of New Mexico. The condition of the upper section of the area where heavy water loss now occurs will remain unchanged. River flow will be forced to penetrate obstructed areas in this section before reaching the constructed channel and floodway below. A complete and satisfactory solution of the problem requires the prompt construction of the upper channel section, consisting of 17 miles, and the tying in of this section with the natural channel above, in order to avoid flood damage to constructed works and to convey water through the entire area with a minimum of loss.

The economic value of a half-completed channelization project will not be great. The economic value of a fully completed channelization project will be substantial because it will remove an immediate and serious threat to the existence of irrigated areas, towns, and cities directly dependent upon an adequate supply of irrigation water from the Rio Grande.

Please place these facts before the Congress and before Federal agencies concerned with the matter. Please impress upon them that completion of the San Marcial channelization work is something that must be accomplished before the people of the Rio Grande Valley of New Mexico can feel assured that their agricultural economy will not deteriorate because of conditions over which they have no control.

Very truly yours,

JOHN L. GREGG,
Treasurer-Manager, Elephant Butte Irrigation District,
Las Cruces, N. Mex.

STATEMENT OF JOHN AUGUSTINE, SECRETARY OF THE NEW MEXICO FARM AND LIVESTOCK BUREAU, LAS CRUCES, N. MEX.

AGRICULTURAL PROBLEMS

Senator CHAVEZ. Our next witness is Mr. John Augustine.

Mr. AUGUSTINE. Mr. Chairman, my name is John Augustine. I am secretary of the New Mexico Farm and Livestock Bureau. We have a membership of about 7,000 farm families.

Since agriculture is probably one of the principal sources of income in our State, we are very much interested in the Rio Grande project.

Senator CHAVEZ. You come from the Mesilla Valley where there is a heavy production of agricultural products?

Mr. AUGUSTINE. Yes, sir. I own a farm below Las Cruces.

Now, there have been times when the farmers below Elephant Butte Dam, and those above Elephant Butte Dam, have not seen eye to eye on all of these water problems. But we are together on one thing, and that is the necessity of getting this channelization work done.

If this channelization work is not completed, the area down below will not get any water, and by virtue of the debt which is being built up the farmers above it will sooner or later be curtailed in their use of water.

Senator CHAVEZ. You may insert your statement in the record.

Mr. AUGUSTINE. Thank you, sir.

I also have a letter which I would like to insert in the record.

Senator CHAVEZ. Fine.

I take it you agree with Mr. Gregg's statement and the other statements that have been made here with reference to the need of trying to progress with the project as soon as possible?

Mr. AUGUSTINE. Yes, sir; because if we do not we cannot produce our crops. The main thing we are interested in is the water.

Representative DEMPSEY. You were pretty short last year?

Mr. AUGUSTINE. Yes, sir. In the lower valley many of us had to go to the expense of drilling wells which is very expensive and is not a sure source of water because as soon as water stopped running down the river that water source dried up. We were just barely able to get enough water to get ready to plant our crops this year.

The folks up above are going to need their share of that water, too. This whole thing is necessary to give us a proper distribution of water.

Senator CHAVEZ. Thank you.

Senator HAYDEN. I note that you mentioned the word "livestock" in the title of the organization of which you are secretary. I assume that the organization includes not only farmers in the valley, but stockmen as well?

Mr. AUGUSTINE. Yes, sir. We have so many livestock men in New Mexico that they want their name in that title.

Senator CHAVEZ. And you feed a whole lot of livestock in the valley?

Mr. AUGUSTINE. Yes, sir.

Senator HAYDEN. The legitimate situation in New Mexico—I know that it is the case in Arizona—is that if you do not have an irrigated valley so that you can fatten out and finish out your range stock, your economy suffers tremendously. You raise a calf on the range to the time when the calf can be put in alfalfa, and then you grow the animal to the proper size so that you can feed grain. You then have him fattened out and you have an animal fit for market. That is all part of the livestock economy.

Mr. AUGUSTINE. Yes, sir. The livestock industry and the growing of feed and crops are all tied in together.

Senator HAYDEN. So that if any segment of that breaks down, all of it is hurt.

Mr. AUGUSTINE. That is right, sir.

Senator HAYDEN. I saw a lot of cattle in the Mesilla Valley last year that were being fed cottonseed.

Mr. AUGUSTINE. A big part of the range feeding involves supplements like cottonseed produced in the valley.

Senator CHAVEZ. That is right.

Thank you, Mr. Augustine.

Mr. AUGUSTINE. Thank you, sir.

Senator CHAVEZ. The prepared statement may be inserted into the record at this point.

(The prepared statement and letter referred to follow:)

STATEMENT IN CONNECTION WITH THE SAN MARCIAL CHANNELIZATION PROJECT

My name is John Augustine. I am secretary of the New Mexico Farm and Livestock Bureau with over 7,000 farm families. I appear on behalf of these members. I own and operate a farm located in the Elephant Butte project near the town of Las Cruces, N. Mex.

The San Marcial channelization project is located in the Rio Grande Valley north of Elephant Butte Dam which is situated 125 miles north of El Paso, Tex. The project begins at a point 20 miles north of the dam and extends northward for 35 miles. The project is now under construction, funds being available for the lower section consisting of 21 miles of channel and cleared floodway. An additional 17 miles of channel and floodway are required to complete the San Marcial channelization work. It is for the purpose of requesting funds for this final phase of the job that I appear before your committee.

Channelization of the Rio Grande through the San Marcial area is necessary because excessive losses of water now occur in the area, due to the destruction of parts of the natural channel of the Rio Grande by floods and by the depositing of sediment on the valley floor. Where the natural channel has been destroyed river flow spreads out over the floor of the valley and an estimated 140,000 acre-feet of water are lost annually by evaporation and plant transpiration.

The water that is lost in the San Marcial area is badly needed for irrigation purposes by farming areas along the Rio Grande both north and south of Elephant Butte. The Rio Grande Valley of New Mexico is an arid section where all available water for irrigation purposes has been appropriated and put to beneficial use. When heavy losses of water occur, as in the San Marcial area, they further reduce the meager water supply that is available to established irrigated areas. There is no surplus of water available with which to absorb such losses.

Heavy losses of water that occur in the San Marcial area are now operating to the distinct disadvantage of all of the irrigated areas on the Rio Grande in New Mexico, both north and south of Elephant Butte Dam. The Rio Grande Compact divides the waters of the stream between the areas lying north and south of Elephant Butte Reservoir. The compact requires the delivery of definite quantities of water each year to the gaging station at Elephant Butte Dam for the use of the Rio Grande project located south of the dam in southern New Mexico and west Texas. These obligations are determined by stream flow at an upstream gaging station on the Rio Grande situated in northern New Mexico near Santa Fe. Due principally to the heavy losses of water that have occurred in the San Marcial area during the past 9 years, the area lying north of Elephant Butte has been unable to make the deliveries required by the Rio Grande Compact and a water debt in the amount of 332,000 acre-feet has accumulated. This is a very substantial amount of water in an arid country.

The existence of this debt exposes the area north of Elephant Butte to the possibility of restrictions in the use of water until the debt is reduced. The existence of the debt means that the area south of Elephant Butte failed to receive 332,000 acre-feet of water which is badly needed for irrigation purposes. This water debt can be reduced, and eventually eliminated, by water savings that will result from the completion and operation of the San Marcial channelization project.

The welfare of many thousands of farm people in the Rio Grande Valley of New Mexico and west Texas is dependent upon the elimination of the unnecessary loss of water that occurs in the San Marcial area. There are 225,000 acres of irrigated land in the Rio Grande Valley, above and below Elephant Butte Dam, that provide the economic basis for the valley. If this land is to be kept

in full production, water losses in the San Marcial area must be promptly and materially reduced.

We respectfully urge you, therefore, to recommend the appropriation of sufficient funds to complete the upper section of the San Marcial channelization project. The completion of this project is absolutely necessary if the Rio Grande Valley of New Mexico is to continue to be a productive agricultural area. The money now being spent for the construction of the lower section of the San Marcial channelization project will fail to accomplish its purpose if the job is not completed by the construction of the upper section. The San Marcial channelization work is a single project divided into two sections, both of which are essential to the proper functioning of the project, and to the solution of the serious problem of water loss that now exists in the Rio Grande Valley north of Elephant Butte Dam.

We are fully aware of the necessity for reducing Federal expenditures wherever possible and support the efforts of the Congress to this end; however, we feel that, since a great deal of money has already been spent on this project, it is only good business to have it completed. We respectfully urge that sufficient money be appropriated for the completion of this project.

NEW MEXICO FARM AND LIVESTOCK BUREAU,
Las Cruces, N. Mex., February 23, 1952.

Hon. Senator DENNIS CHAVEZ,
United States Senate Office Building,
Washington, D. C.

DEAR SENATOR CHAVEZ: I am writing you at this time to more or less supplement our recent conversation regarding the appropriation of fuuds for the continuation of the San Marcial channelization work now under construction as a part of the autborized middle Rio Grande project. The San Marcial channelization feature consists of 38 miles of constructed channel, levee, and cleared floodway between the vicinity of the town of San Antonio, N. Mex., and the central portion of Elephant Butte Reservoir.

This project has been carefully studied and urgently requested by a State farm bureau irrigation committee composed of interested farmers in the area involved. The completion of this project is a part of the state program of our organization, which is composed of 7,000 farm and ranch families in New Mexico.

We urge the continuation of this work because the welfare of the farm people living in the Rio Grande Valley of New Mexico depends upon an immediate reduction of the heavy water losses that have been occurring in the San Marcial area north of Elephant Butte Dam. The reason for these losses is that the natural channel of the Rio Grande has been destroyed by floods at various points within the area covered by the San Marcial channelization project. Heavy vegetation has grown up across the old river bed and the river now spreads out over the valley. The result is that these areas have trapped sediment until they have the effect of low dams across the valley floor, which naturally depletes the supply of available water for irrigation purposes both north and south of the Elephant Butte reservoir.

As you well know of course, Senator, the Rio Grande valley of New Mexico is situated in an arid region where irrigation is absolutely essential in order to maintain our agricultural economy. The available supply of water for irrigation purposes has been fully appropriated and is hardly sufficient, even under normal conditions, to serve the lands dependent upon the flow of the Rio Grande.

As you know the Rio Grande compact, which became effective in 1939, apportions the water of the upper Rio Grande to Colorado, New Mexico, and Texas. Elephant Butte Dam is the official measuring point for the delivery of water to Texas. It is obvious therefore, that water lost in the San Marcial area does not accrue as credit to New Mexico, and this situation is one of the principal reasons New Mexico is heavily in debt to Texas on water deliveries. It is conceivable that New Mexico might have to curtail irrigation in order to meet its obligation under the compact. More than 225,000 acres of farm lands below and above Elephant Butte Reservoir are directly dependent upon a solution of the San Marcial project.

On the Rio Grande project (New Mexico-Texas) below Elephant Butte Dam there are 155,000 acres of highly productive land capable of producing crops valued at more than $40 million annually under normal water supply conditions. Many thousands of farm people, and a greater number of others engaged in allied businesses, are entirely dependent upon the agricultural production of this irri-

gated project. Weather conditions and other factors being what they are, everyone on the Rio Grande is anxious to see that no step is omitted to prevent any loss of water in the Rio Grande.

Completion of the San Marcial channelization work will stabilize the water supply situation of the Rio Grande project and will promptly return many times the cost of finishing the work that is now under way. The San Marcial situation cannot be tolerated if the agricultural economy of the Rio Grande Valley of New Mexico is to avoid serious and permanent impairment. The real problem then is to correct a situation that presents a serious threat to the existence of the irrigated areas in New Mexico, both north and south of Elephant Butte, including 70,000 acres in the extreme western portion of the State of Texas in and around El Paso.

We respectfully urge you to do everything possible to secure funds for the completion of this work. However, I feel sure that you will do this anyway for the good of your State. This letter is merely to point up some of the problems involved in connection with the project. It would truly be a serious blow to the people in the area concerned, and a terrible waste of money to stop this channelization work before completion.

Sincerely,

DELMAR ROBERTS,
President, New Mexico Farm and Livestock Bureau.

STATEMENT OF JOHN H. BLISS, STATE ENGINEER, STATE OF NEW MEXICO, SANTA FE, N. MEX.

ELEPHANT BUTTE DAM WATER SUPPLY

Senator CHAVEZ. Our next witness is Mr. John H. Bliss, State engineer of New Mexico.

Mr. BLISS. Mr. Chairman, my name is John H. Bliss, and I am the State engineer of the State of New Mexico.

I have here, Mr. Chairman, a prepared statement which I would like to submit for the record.

I want to say to you that I have talked with Governor Mechem. He has stated that he will adopt my statement and make it his own.

Senator CHAVEZ. We will be glad to receive the statement.

Mr. BLISS. There are two or three points which I think it might be well for me to emphasize in this matter.

I recall appearing before the House committee 3 or 4 years ago—I am not sure which. The question was asked at that time as to what would happen if the debt of New Mexico continued and we got to the point where we were in actual violation of the compact. That was a hypothetical question at that time.

SUIT BY STATE OF TEXAS

It is before us now. As has been pointed out, we are being sued for violation of the compact by the State of Texas. We have another local suit which questions the right of the district itself, the Elephant Butte project, to drain their own water out of the lake.

There is also the question of whether they shall retain a small amount for fish and sanitary purposes.

May I say this: that if the project could have been gone forward with before this time and if it were now under construction, we would not be presented with these difficulties.

CHANNELIZATION PROJECT

As has been pointed out, there has been a tremendous loss of water in this 40-mile swamp at the head of Elephant Butte Reservoir.

There is almost as much water that is wasted and lost in that area to the benefit of no one as has been used in the entire middle valley.

Now, the Bureau of Reclamation does not claim that they can save all of that water. That is not physically possible. However, a substantial part of that water can be saved. I venture to say flatly that if the project had been in operation even with the dry year of 1950, and the year 1951, which was driest year of record in modern times, in our State, there would have been enough water for the Elephant Butte project and, if you please, for the middle valley project.

The project is not a new project at all. I wish the committee could see that swamp down there of salt cedar. As has been pointed out, a substantial part of the project is the rehabilitation project, the channelization project at the head of the reservoir which is being constructed at the present time.

But unless the entire project is completed and unless we can channelize completely this swamp and keep the floodwaters within bounds and keep the low-water flows controlled, we are not going to be able to salvage what we expect and have a right to believe we can get.

Senator HAYDEN. Have you actually visited and inspected the work that has gone on there?

Mr. BLISS. I have, Senator.

PRESENT WATER CHANNEL

The State last year put up as much money as it had available from the Rio Grande improvement fund, a land-grant fund, and we spent in cooperation with the two districts, the Elephant Butte irrigation district and the Middle Rio Grande Conservancy District, enough money to go through the larger part of this swampy area and make a continuous low-water channel.

Senator HAYDEN. About what is the width of that channel?

Mr. BLISS. It is quite small. It will only carry about 1,000, or 1,200 second-feet; something of that nature. It was a pilot channel. It was effective in salvaging low-water flows, but, of course, it would be quite ineffective in large floods.

Senator HAYDEN. Well, it would help to drain off the high-water flow sooner.

Mr. BLISS. It would do that. It was effective enough that when the contractor came in the lower area he was able to work largely on dry land whereas otherwise he would have been working in a swamp.

Senator CHAVEZ. On the main channel?

Mr. BLISS. Yes.

Senator HAYDEN. The main channel is how wide?

Mr. BLISS. I do not know the figures, sir.

Mr. THOMPSON. It has a top width of 80 feet and a 12-foot depth. The floodway is 1,000 feet wide in clearance.

Senator CHAVEZ. Mr. Thompson is the project engineer for the Bureau, Senator Hayden.

CLEARING OF VEGETATION

Senator HAYDEN. You are clearing away all of the vegetation for a width of 100 feet?

Mr. THOMPSON. Yes, sir.

Senator HAYDEN. How are you going to keep it down?

Mr. THOMPSON. We have been spraying an area down there with a chemical. That is a test plot. The contractor is now doing the clearing with a brush cutter which looks like it will work pretty well on small brush.

Senator HAYDEN. They cleared a reservoir site in Wyoming with a new device that reduced the cost of clearing the brush and trees very materially.

I have heard of the poison sprays that they apply as giving evidence of success.

Mr. THOMPSON. Yes, that is right.

Senator CHAVEZ. I have seen them at work, Carl. I was over there with the contractor and Mr. Thompson last fall, and they are removing 40,000 cubic yards a day. They are working full time. They have kept up with the work.

The idea now is to just continue that particular work.

Is there anything further, John?

SALTCEDAR PROBLEM

Mr. BLISS. In that connection, I might say that the State and the Federal agencies have formed a saltcedar committee, and the groups are all working together to see what can be done toward taking care of the saltcedar problem.

Senator HAYDEN. That was introduced from some foreign land. It didn't exist when I was a boy. I have never been quite sure where it came from. But it can get into a river bottom and drink up more water than any other plant that there ever was in that situation.

Mr. BLISS. Moreover, it can exist with almost no water at all, if it has to.

Senator CHAVEZ. Mr. Bliss, I had information some time ago that the Governor and the State authorities and the Federal agencies were making preparations for the flood hazards on the Rio Grande. What can you tell the committee with reference to that?

Mr. BLISS. As was pointed out by the Corps of Engineers, we have the highest pack of snow in the extreme high mountains that has ever been recorded. The State has appointed General Sage and his State organization to develop a plan for disaster relief. That plan is going ahead.

Senator CHAVEZ. Are they not even talking about martial law?

Mr. BLISS. Yes, that is authorized.

Senator CHAVEZ. And General Sage is adjutant general of the State of New Mexico?

Mr. BLISS. That is right.

Senator CHAVEZ. And they are authorized to declare martial law? They are so concerned about the flood hazards that they are discussing martial law for the entire valley?

Mr. BLISS. That is correct.

Senator HAYDEN. I assume that the Red Cross organizations are alerted, too?

Mr. BLISS. All agencies, I believe, have been alerted. There has been a general response to the threat of high water.

Senator HAYDEN. Your prepared statement may be inserted into the record at this point.

Mr. BLISS. Yes.

(The statement referred to follows:)

STATE OF NEW MEXICO, STATE ENGINEER,
Santa Fe, N. Mex., March 24, 1952.

Hon. DENNIS CHAVEZ,
United States Senate, Washington, D. C.

DEAR SENATOR CHAVEZ: In considering whether it is necessary and desirable to continue the appropriations for the rehabilitation of the channel of the Rio Grande in the San Marcial area above Elephant Butte Reservoir, Congress should consider a number of factors.

The present deteriorated condition of the Rio Grande channel, which is caused by the aggradation of the bed of the stream above Elephant Butte Reservoir, has resulted in an estimated annual loss of 180,000 acre-feet of much-needed water to the States of Colorado, New Mexico, and Texas. It is a condition beyond the ability of any one district or State to correct. After several years of study by State and Federal agencies, the problem was presented to the Congress which 4 years ago recognized it as a Federal responsibility when it approved the Middle Rio Grande flood control and rehabilitation project.

That part of the project plan for which additional appropriations are now being sought contemplates the channelization of the San Marcial reach of the river thereby controlling normal and flood flows within narrow limits, and preventing the flood irrigation of 30,000 to 40,000 acres of swamp and heavy bosque growth. The Bureau of Reclamation estimates conservatively that this program will result in the saving of over 40,000 acre-feet of water annually. When completed, the channelization program will so control flood flows that the replacement of most of the bosque areas with cultivated crops or other beneficial vegetation will then be possible. Since water consumption by beneficial crops is only about half that of the present phreatophytes, this will result in further substantial savings of water to the three States.

The plan provides for substantial control works at the head of the reclaimed area to direct high waters into the floodway and protect the low-water channel which lies just outside of the floodway levee.

At the present time Congress has appropriated $1,463,000 for this program, which is about one-third of the total needed. A substantial amount of work has already been accomplished at the lower end of the project. However, if appropriations are stopped at this point, there is grave danger that much of the present work will be damaged or destroyed by floods. Only by completion of the project, including the necessary head-control works, can the safety and effectiveness of the works be assured.

The Rio Grande Compact Commission held its annual meeting in Santa Fe Monday, February 25, at which time the annual water accounting between the States was made. Preliminary figures indicate that the total New Mexico water debit is about 330,000 acre-feet, an increase of nearly 70,000 acre-feet during the 1951 season. This debit is not caused by New Mexico's overuse of water by irrigation, but is largely the result of the deterioration of the river channel in the area below the project. Because of this water debit, irrigation operations in the middle valley are severely handicapped. Storage for the Elephant Butte project in New Mexico and Texas has been drawn down to its lowest point since 1918. Under normal conditions this storage would be greater than it now is by at least the amount of New Mexico's debit. Unless we should be favored with a much larger than normal water supply this year, conditions on the river will be extremely serious.

New Mexico is now engaged in the preliminary phases of a Supreme Court suit with Texas which is a direct result of this condition on the river. I have no way, of course, of knowing what the result of such a suit may be. I do know, however, that it cannot produce a single drop more of water in the stream. The only action which can do this is the completion of the rectification work now in progress.

I was in the San Marcial area in February going over some of the limited rectification work undertaken last year by New Mexico and the interested irrigation

districts in the middle and lower valleys of the State. Our project was quite effective in its small way but, of course, will be entirely inadequate during high water and is subject to serious damage by flooding.

I wish it were possible for Members of the Senate and House to make an inspection of this 40 miles of swamp and salt cedar thicket as I did. If they could see the problem on the ground, I am sure they would understand that this is not a "new" project nor one which can be lightly abandoned at this stage of partial completion. They would understand that the very existence of the middle valley project is threatened; that a substantial part of the Rio Grande water supply of Texas, southern New Mexico, and, indirectly, Colorado, is now being lost and wasted; in short, that the economy and well-being of many thousands of people and an investment of many millions of dollars depends upon alleviating this situation on the river at the earliest possible time.

I sincerely trust that the Congress will see its way clear to continue appropriations to complete this vitally needed program.

Sincerely yours,

JOHN H. BLISS, *State Engineer.*

STATEMENT OF D. A. MacPHERSON, JR., ATTORNEY FOR THE MIDDLE RIO GRANDE CONSERVANCY DISTRICT, ALBUQUERQUE, N. MEX.

SUIT AGAINST STATE OF NEW MEXICO

Senator CHAVEZ. Our next witness is Dan MacPherson.

Mr. MACPHERSON. I am D. A. MacPherson, Jr., of Albuquerque. I am attorney for the Middle Rio Grande Conservancy District, and one of the representatives of the Middle Rio Grande Conservancy District in the Supreme Court where a suit was filed against the State of New Mexico and the conservancy district, and its officials, seeking, in effect, an injunction against any further storage of water in the El Vado Reservoir high up in our Rio Grande watershed until an accrued debt of water to Texas is repaid.

That lawsuit is another example of what the deterioration of the river and stream system will cause.

Under the Rio Grande compact, certain deliveries of water are required at San Marcial, with no excuses provided.

In addition, under the 1906 treaty with Mexico, our Government is required to send 60,000 acre-feet of water to Mexico each year.

To accomplish either of these things, it is imperative that the water which develops in the high mountains and actually passes our conservancy district get on down the river for the lower Rio Grande below Elephant Butte and for Mexico.

SAN MARCIAL CHANNELIZATION

Without completion of the present program, specifically the San Marcial channelization, neither can now be accomplished. Hence these lawsuits would accomplish little for anyone.

Senator HAYDEN. I would like to inquire there.

The State of Texas, if it were successful in enjoining the storage of water in the upper reaches of the Rio Grande, would have no way of getting that water down to Texas anyhow. What would it profit the State of Texas?

Mr. MACPHERSON. That is our very point. In fact, in our brief we challenge the Court taking jurisdiction on the ground that actually it is a situation where the engineers rather than the lawyers have to solve the problems.

To put it bluntly, we say that we cannot deliver water through a pipe or through a conduit that is full of holes.

So it is a question of the ability of performing under a compact that makes no provision for the conditions that exist.

Senator HAYDEN. Of course, they did not exist at the time the compact was formed. It was not anticipated.

Mr. MACPHERSON. That is correct.

Senator HAYDEN. I assume that under the doctrine of prior appropriation that Mexico claimed the earliest use of the water in that area. Then again perhaps the Rio Grande area in Texas was irrigated at a very early date.

Senator CHAVEZ. No, the Rio Grande area in New Mexico was irrigated before that in Texas.

Mr. MACPHERSON. I think we all recognize that the Indians were in there first. Then came the early inhabitants of both Mexico and New Mexico as they developed there. The treaty with Mexico provides for 60,000 acre-feet to be delivered to Mexico per year.

Senator HAYDEN. Then it is not a question of prior appropriation, but rather a question of the equitable proportion between the States.

Mr. MACPHERSON. Yes, sir.

Senator CHAVEZ. And in addition there is the agreement between the United States and Mexico.

Mr. MACPHERSON. That is right.

Senator CHAVEZ. And you do not feel that the lawyers can do very much about solving this problem?

Mr. MACPHERSON. We feel that it is more of an engineering problem than a legal problem.

FLOOD DANGER AT ALBUQUERQUE

Incidentally, I thought that while I was here I would like to speak in another capacity.

I am secretary of the Albuquerque Consolidated Board of Education. I have been on that board for 6 years. My father preceded me for 12 years in the same capacity.

We now have a plant that we estimate is worth about $15 million. We have 27,000 students and with the installation of Kirtland Field and Sandia Base, we have over 1,000 youngsters who are the sons and daughters of both military and civilian atomic energy families.

Under an agreement with them, they provide the buildings and we provide the teachers and administer the school system.

We feel that if there was a flood in the valley, over half of our plant would be under water, and that would not only interrupt our own system, but would very directly affect the lives and welfare of these 1,000 youngsters that are connected with it.

Senator HAYDEN. Is it true that the bed of the Rio Grande in the vicinity of Albuquerque is higher than the land outside the levees?

Mr. MACPHERSON. The bed of the Rio Grande at Albuquerque is 4 feet higher, that is, the bottom of the bed is 4 feet higher than the land at Fourth and Central Streets which we consider the center of the town of Albuquerque.

Senator CHAVEZ. That is where the First National Bank is?

Mr. MACPHERSON. That is right.

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Senator HAYDEN. If a large flood occurred and the levee were to break, the water would naturally go over the town because the river bed is 4 feet higher than the streets in town?

Mr. MACPHERSON. That is right. There would be 4 feet of water.

Senator CHAVEZ. Not only that, but the main line of the Santa Fe Railroad is located on what used to be the old river bed.

Representative DEMPSEY. And they have shops there employing 1,200 men.

Senator CHAVEZ. That is in what used to be the old channel of the river.

Mr. MACPHERSON. That is right.

Senator CHAVEZ. Is there anything further, Dan?

Mr. MACPHERSON. No, Mr. Chairman.

Senator CHAVEZ. I have known Dan for a long time. He was the only one who had shoes when we were growing up.

Mr. MACPHERSON. And I did not have them all the time.

Senator CHAVEZ. Yes.

Representative DEMPSEY. He not only had shoes, but he now has a new son as of 12 days ago.

Senator CHAVEZ. That is right.

STATEMENT OF R. N. NANNINGA, ALBUQUERQUE, N. MEX., PRESIDENT, BERNALILLO COUNTY FARM AND LIVESTOCK BUREAU

RIO GRANDE IMPROVEMENT COMMITTEE

Senator CHAVEZ. Dr. Nanninga is our next witness.

Will you identify yourself for the record?

Mr. NANNINGA. My name is R. N. Nanninga. I am not a doctor. I am a farmer.

Senator CHAVEZ. Who is Dr. Nanninga?

Mr. NANNINGA. That is my father.

Senator CHAVEZ. I like him, too.

Mr. NANNINGA. My name is R. N. Nanninga. I am a farmer on a 295-acre dairy farm with 65 head of milk cows. My farm is located 10 miles south of Albuquerque in the middle Rio Grande Conservancy District.

I am here this morning from the Rio Grande Improvement Committee of the Farm Bureau, representing four counties north of Elephant Butte Reservoir, comprising some 100,000 acres of irrigated farmland in the Middle Rio Grande Conservancy District. This district extends some 150 miles along the Rio Grande River.

The channelization feature of the authorized Middle Rio Grande project, which is now under construction in the San Marcial area of the Rio Grande Valley north of Elephant Butte Dam, is intended to reduce the heavy losses of water that occur in that area.

FLOOD DESTRUCTION OF NATURAL CHANNEL

The channelization project begins 20 miles north of Elephant Butte Dam, which is situated 125 miles north of El Paso, Tex.

The work consists of the construction of a channel and a floodway through a 35-mile section of the Rio Grande Valley for the purpose of

conveying water through an area where portions of the natural channel of the Rio Grande were destroyed by floods and sedimentation in 1941 and subsequent years.

Lack of an adequate natural channel causes river flows to spread out over the valley floor where a substantial amount of water is lost through evaporation and plant transpiration. The annual loss is estimated to be about 140,000 acre-feet.

Funds are now available for the completion of the lower section of 21 miles of channel and floodway. An additional 2½ million dollars are required to complete the work by constructing an upper 14-mile section, together with the necessary headworks.

COMPLETION OF PROJECT

Let me emphasize that the funds requested are for the completion of a job that is now under construction. The lower section of the channelization work on which work is now in progress, will not be of much value unless the upper section is also built and tied into the river channel above the area where heavy water losses now occur.

The two sections are equally necessary. One will be ineffective without the other. An unfinished channel and floodway will fail to solve the acute problem of water loss that now exists in the Rio Grande Valley north of Elephant Butte Dam.

The water that is now lost in the San Marcial area is badly needed by the farms of the Rio Grande Valley both north and south of Elephant Butte. Water lost in the San Marcial area fails to reach Elephant Butte Reservoir for the use of 155,000 acres of Rio Grande project lands located below Elephant Butte Dam.

WATER OBLIGATIONS TO STATE OF TEXAS

At the same time, such losses have been the principal factor contributing to the rapid increase in the water debt owed by the State of New Mexico to the State of Texas under the provisions of the Rio Grande compact which apportions the water of the Rio Grande among Colorado, New Mexico, and Texas.

The debt now amounts to 332,000 acre-feet of water and it has been accumulated during the past 9 years when water losses in the San Marcial area have been the heaviest.

The State of New Mexico does not receive credit for water that is lost in the San Marcial area and which fails to reach the official compact point of delivery to the State of Texas at Elephant Butte Dam.

The water debt of the State of New Mexico to the State of Texas now exceeds the limit permissible under the provisions of the Rio Grande compact by 131,000 acre-feet. This means that the irrigated areas north of Elephant Butte are deprived of the free use of their storage reservoir, and face the possibility of restricted use of river flow until the debt is reduced. Thus the San Marcial losses are jeopardizing the positions of the irrigated areas both north and south of Elephant Butte Reservoir.

SAN MARCIAL CHANNELIZATION

It is to relieve this situation, and give the farmers in the Rio Grande Valley, both north and south of Elephant Butte, an opportunity to

make full use of the limited water supply available, that we are asking for sufficient funds to complete the San Marcial channelization project.

We live in a section of the country where water is scarce. There is no such thing as surplus water. Even without the losses that now occur in the San Marcial area, the supply is not adequate to meet irrigation requirements.

The San Marcial losses that deplete the limited supply of water available in the Rio Grande Valley of New Mexico have produced a situation that grows more critical year by year. Unless the San Marcial situation is corrected and present losses are substantially reduced, irrigated sections along the Rio Grande, both north and south of Elephant Butte, will be faced with the necessity of continually curtailing their cultivated areas as the water supply decreases.

FLOOD PROBLEM

North of Elephant Butte Reservoir, we are faced with a flood problem that becomes more serious year by year. The deposition of sediment in the river channel has raised the channel above the elevation of the valley floor at various points. Heavy flows that occur during spring floods batter the levees along the river.

When breaks occur, adjoining farmlands are subjected to flooding. Urban areas are also endangered.

JEMEZ DAM AND CHAMITA DAM, N. MEX.

Various features of the authorized middle Rio Grande project are intended to reduce, or to eliminate this flood danger. The Chamita flood-control dam will hold back the floodwaters of the principal tributary to the Rio Grande in New Mexico.

The Jemez flood-control dam, now under construction, will control flood flows in a smaller tributary.

Sedimentation capacity is provided in both of the reservoirs that will be created by these dams. The construction of a floodway through the Rio Grande Valley in the vicinity of Albuquerque is designed to control floodwaters passing through a heavily populated section of the State of New Mexico. These features are necessary to prevent the destruction of life and property in the Rio Grande Valley north of Elephant Butte from floods that come periodically.

Senator CHAVEZ. You have made a very fine statement. We appreciate it very much. Thank you.

Are there any questions?

RIO GRANDE CHANNEL AT EL PASO, TEX.

Senator HAYDEN. I would like to inquire whether there has been brought into this record an example, a very successful example of the channelization which took place on the Rio Grande where it formed the boundary between the United States and Mexico below El Paso?

My understanding of that situation is this: Before the Elephant Butte Dam was built, the successive floods in the Rio Grande kept the channel scoured out at El Paso. As I remember it, the river bed there was some 6 to 10 feet below the level of the streets in El Paso.

After the construction of Elephant Butte Dam, the sand and the gravel that accumulated between Elephant Butte Dam and El Paso

drifted on down and the river bed at El Paso was above the level of the streets in El Paso.

Then the United States and Mexico entered into an agreement to straighten out the channel from El Paso down to a point some thirty-odd miles below, I believe.

Senator CHAVEZ. And the New Mexico end of it, too.

Representative DEMPSEY. One hundred ten miles of New Mexico.

Senator HAYDEN. Well, the river channel was as crooked as a snake's tracks. Lawrence M. Lawson, who came from the Yuma project to superintend the Elephant Butte Dam construction, then became the International Waterway Commissioner, and by very skillful negotiation they fixed a new line and a very much straighter line from El Paso through the lower Rio Grande Valley and thereby accelerated the flow of the water by straightening out the channel.

The result is that in trading land neither the United States nor Mexico gained an acre, but land had to be transferred because of the river's bends and cuts from one country to another.

As a result of that in El Paso, now, the river channel is back at its old depth and is not above the streets of El Paso.

That shows that you can by this same identical process that is proposed here in this bill accomplish a definite result. It stands there to prove it so far as the physical features are concerned.

Senator CHAVEZ. That is the purpose of the over-all plan of the project. The purpose is the channelizing of the river in its entire length.

Senator HAYDEN. It did work there on the same identical stream for a great length of it and it is in successful operation today, whereas before the people in El Paso were menaced just as those in Albuquerque are by having the river bed higher than the streets in the city.

Representative DEMPSEY. Before you came in Senator Chavez put a letter in the record, from Mr. Lawson.

Senator HAYDEN. I apologize to the committee for having been absent at the beginning of the session, but I had to attend a meeting of the Committee on Rules and Administration to take care of some matters.

Senator CHAVEZ. Senator, we have another project that is to be taken up before your committee this afternoon. I wonder whether you will give me permission to continue.

Senator HAYDEN. I was going to say that I hope you will continue the hearings.

Senator CHAVEZ. We will get through this morning with the testimony on the middle Rio Grande project, but I would like to conclude this afternoon because they are all here from New Mexico and I would dislike very much putting them to the trouble of coming again.

Mr. NANNINGA. There is one more thing I would like to bring before the committee at this time. The President made a speech in Omaha last Friday, and in that he said that the flood in that area could have been averted had the people in the river basin been made to realize the seriousness of the situation and if those dams had been completed.

Senator CHAVEZ. His statement has been inserted in the record.

Mr. NANNINGA. I wish to say that we in New Mexico realize the situation with regard to the Rio Grande at this time, and we are trying to lay that before the committee now.

Senator CHAVEZ. That is right. I heard the President's speech in Omaha. I was present when he said that he was just as interested in the Rio Grande as he was in the situation there.

Mr. NANNINGA. I would like also to submit a resolution approved by the Rio Grande improvement committee of the Farm Bureau at a meeting held in Albuquerque, N. Mex., on February 8, 1952.

Senator CHAVEZ. All right. That resolution will be inserted in the record.

Mr. NANNINGA. Thank you, Mr. Chairman.

(The resolution referred to follows:)

The following resolution was approved by the Rio Grande improvemeut committee of the Farm Bureau, representing county Farm Bureau organizations in Sandoval, Bernalillo, Valencia, Socorro, Sierra, and Dona Ana Counties, at a meeting held in Albuquerque, N. Mex., on February 8, 1952.

"The committee is concerned with reports that appropriations for the construction of the channelization, as well as other features, of the authorized Middle Rio Grande project, have been eliminated from the budget now under consideration. Other features of the project are designed to provide flood protection and to improve the physical condition of the Middle Rio Grande Conservancy District.

"The Rio Grande Valley of New Mexico is primarily an agricultural area dependent upon an adequate supply of irrigation water for its existence. This water supply has been severely reduced by a prolonged drought. It has been further reduced by heavy losses of water that occur throughout the Middle Rio Grande Valley, especially in the San Marcial area north of the Elephant Butte Dam. These losses are caused by the lack of an adequate river channel, particularly in the San Marcial area where portions of the natural channel have been completely destroyed by floods. River flow that reaches thsee sections where no channel exists spreads out over the valley and substantial quantities of water were lost by evaporation and through consumption by a dense growth of vegetation that has developed in the area.

"A channel is now under construction in the San Marcial area as part of the authorized Middle Rio Grande project. The channel is designed to eliminate present losses of water by providing a means for both normal and flood flows to reach Elephant Butte Reservoir. Completion of the channel cannot be assured until necessary funds are made available. Unless the channelization feature of the authorized Middle Rio Grande project is promptly carried through to completion and present wastes of water in the San Marcial area eliminated, water supplies available to irrigated areas on the Rio Grande in New Mexico will continue to be greatly reduced by unnecessay losses.

"The welfare of the farm people living in the Rio Grande Valley of New Mexico, as well as in Texas, is dependent upon the prompt completion of the channelization feature, as well as other phases, of the authorized Middle Rio Grande project. Full compliance by the United States with treaty obligations to Mexico is also dependent upon completion of San Marcial channelization. We urge the members of the New Mexico congressional delegation, State officials, as well as organizations and individuals in the Rio Grande Valley of New Mexico to make every effort to obtain funds for the completion of this project, with particular reference to the channelization feature now under construction."

STATEMENT OF WILLIAM A. BROPHY, FORMERLY COMMISSIONER OF INDIAN AFFAIRS, DEPARTMENT OF THE INTERIOR

EFFECT ON PUEBLO INDIANS

Senator CHAVEZ. Mr. William A. Brophy is here. I do not know whether he cares to make a statement, although he has in the past with the permission of the Commissioner of Indian Affairs. If he wishes to do so, we would like to have him make a brief statement as to how much this project affects the Pueblo Indians.

Mr. BROPHY. I am William A. Brophy.

Mr. Chairman, I am not prepared to discuss this matter before the committee, and I have not been authorized by the Secretary of the Interior to testify.

However, I have certain personal views which I will be happy to express.

Senator CHAVEZ. We do not want you to do anything that would embarrass you in your position with the Department. However, I know that you know the Indian pueblos of the Rio Grande Valley, and I thought it would be of interest to the committee to listen to your views as far as this project is concerned.

Mr. BROPHY. Thank you, sir.

As you know, Mr. Chairman, when your Public Works Committee held hearings on the substantive authorization law covering this matter, the Pueblo Indians were completely unanimous in urging that the work be done.

In the first place, they are a part of all of the people of the valley, and to the extent that the valley is injured, as it will be if the appropriations don't go through, they will be injured.

Senator CHAVEZ. How many pueblos, commencing with the Cochiti in the South, are there in the middle Rio Grande area?

Mr. BROPHY. There are the pueblo of Isleta, the pueblo of Santa Ana, the pueblo of San Dia, the pueblo of San Felipe, the pueblo of Santo Domingo, and the pueblo of Cochiti.

I have forgotten the population of those six pueblos, but I can furnish that for the record.

They have approximately 21,000 acres of irrigable land within the conservancy district for which they claim the first dip out of the river and the prior right to storage in the El Vado Dam.

Senator CHAVEZ. I think that is recognized.

Mr. BROPHY. Let me say that while I have not discussed this matter of appropriations with the Indians recently, I think I can give you an illustration of what is their attitude. The chairman and Congressman Dempsey know, as most of the members of this committee know, how zealous the Indians are about their lands and how difficult it is to get them to give anybody any rights in their lands.

Yet within 90 days the Pueblo of Santa Ana for a nominal consideration, gave the Army engineers the right to flood and take something in the order of 3,000 acres of their land for their part of this project.

If they were not fully in favor of it, they naturally would not have given the land, and there is no way that it could have been taken. So obviously they are favorable toward it.

Senator CHAVEZ. You would be justified in saying, Mr. Brophy, that generally the Pueblos affected would be in favor of the project as a whole. They did testify to that.

Mr. BROPHY. They did testify to that, and it is plain from the facts of the valley that the work should be done to protect their lands and in order to fulfill the obligation of the United States as trustee to carry out that protection.

Thank you.

Senator CHAVEZ. Thank you, Mr. Brophy.

STATEMENT OF HUBERT BALL, CHIEF ENGINEER, MIDDLE RIO GRANDE CONSERVANCY DISTRICT

IRRIGATION PROBLEMS

Senator CHAVEZ. All right, our next witness is Mr. Hubert Ball?

Mr. BALL. Senator Chavez and members of the committee, I am going to be a little more definite and make a little stronger statement than any of the other witnesses have made here.

My name is Hubert Ball, and I am chief engineer of the Middle Rio Grande Conservancy District with headquarters at Albuquerque, N. Mex.

I want to bring out a few points very definitely, Senator, and then submit a written statement that I have.

First, the Middle Rio Grande Conservancy District is the oldest continuously irrigated area in the United States. We are using canals now that were constructed over 400 years ago. We are irrigating the same lands which have been in cultivation almost continuously since that time.

Representative DEMPSEY. Will you repeat that?

IRRIGATION BACKGROUND

Mr. BALL. The Middle Rio Grande Conservancy District is the oldest continuously irrigated section in the United States. We have been irrigating that district by the Spanish-Americans for over 400 years and the Indians into antiquity before that.

Representative DEMPSEY. How old are the canals now?

Mr. BALL. We have canals there now that have been in their present location, as best we can determine, for over 400 years, Congressman.

FLOOD AND DROUGHT PROBLEMS

Each year we are faced with the problem of a flood in the spring and a drought in the summer. That problem is considerably worse this year than usual because of the abnormal snow conditions in the mountains.

But regardless of the fact of the amount of snow, under our present method of operation which is governed by rules and regulations set out by interstate compacts, we very definitely are going to run out of water in our area the latter part of this summer.

Unless there are unusual weather conditions, rains, which we do not ordinarily expect, the crop losses will be terrific throughout our area.

I want to point out that the project as presently organized was started in 1927. The United States Government appropriated over $1,500,000 for construction on this portion of the Rio Grande in 1928. They have made appropriations of varying sums and sizes since then, which fact should certainly indicate that this is in no way a new start.

But there have never been appropriations of sufficient size to really do a job which we feel most emphatically at the present time it is the duty of the Federal Government or other persons with much more finances and capital available than the local people have who have

spent every dime that they have been able to rake together to try to protect themselves up to the present.

That source is going dry. It is drying up in a hurry.

We have just about reached the point where we are going to have to quit operating the Middle Rio Grande Conservancy District. That has been brought about by the flood conditions and the siltation of the channel and the aggradation of the river bed which is one of the worst problems in the entire world among the major rivers.

A former Secretary of the Interior—I believe it was Secretary Krug—came out with a very violent statement a few years ago at the time we were having hearings originally on the authorization, to the effect that the Rio Grande was one of the problem rivers of the world and that unless there was something done, and done in the not too distant future, the entire civilization in our area would practically disappear.

We are reaching that point and we are reaching it in a hurry. I want to put a few more figures in the record.

SILT DEPOSITS

First surveys by competent engineers show that at the present time there is deposited in the middle Rio Grande area and in the upper reaches of Elephant Butte Reservoir 13 million tons of sand and silt every year.

Thirteen million tons of sand and silt is equivalent to a 300-foot square city block pilled 2½ miles high. That is going into our valley every year.

The district is required to move preposterous amounts of that silt in order to continue operating.

Senator CHAVEZ. Even in the ditches?

Mr. BALL. Senator, even in the ditches we are moving around 2 million tons of sand and silt a year. It makes the cost of operation top-heavy there with silt control and flood control to the point that we are reaching the end of our rope.

This channelization would tend to speed up the flow of the river and stop some of the deposits, the depositing of silt through this area which has formed a natural barrier and caused the terrific loss of water which has been very ably explained by people on the stand before me.

Most of the points have been covered or will be covered in these statements, but I just want to make this final statement, Senator, which is that unless the comprehensive plan for the development of that area is carried out, particularly the channelization of the river in the San Marcial area and the upper reaches, and unless the flood-control portion is carried out, we are pallbearers here today officiating at the funeral of one of the world's finest irrigation districts.

Senator CHAVEZ. Thank you, Mr. Ball.

Your prepared statement as submitted will be incorporated into the record at this point.

Mr. BALL. Thank you, Mr. Chairman.

(The prepared statement referred to follows:)

MIDDLE RIO GRANDE CONSERVANCY DISTRICT,
Albuquerque, N. Mex., February 21, 1952.

Hon. DENNIS CHAVEZ,
Chairman, Committee on Public Works,
Senate Office Building, Washington 25, D. C.

DEAR SENATOR CHAVEZ: Your letter requesting additional information and factual support for reclamation work in this area was received this morning. We are making this comparatively short reply and statement by return mail in case that it is needed Monday or Tuesday. I will also be prepared to submit a much more detailed and lengthy statement after a little more time is available to assemble such a document.

Enclosed with this letter is a statement directly bearing on the San Marcial problem and the completion of the channel through the swamps in that area, which I believe will be self-explanatory.

In addition to this particular problem, I am sure you are familiar with the local situation as it exists today in the Middle Rio Grande Conservancy District. We have in excess of 2½ times normal the amount of snow, for February 15, on practically all of the Rio Grande watershed. This indicates that a catastrophe is not only possible but probable and the least we can expect under present conditions will be a prolonged runoff of unusually high water which will undoubtedly do great damage along the river from above Espanola to San Marcial.

It seems incredible with so much water expected during the spring that the Middle Rio Grande Conservancy District would at the same time be advising people to consider the possibility of a critical shortage of water during the latter part of the season, but this is a fact, and, since the enormous losses of water in San Marcial has been experienced for the past few years, is usually the case. This is brought about by terms of the Rio Grande compact under which we are now being sued in the Supreme Court of the United States. The loss incurred in the San Marcial swamps has increased. The loss of water in New Mexico has reached the point where we are now in debt under the compact over 320,000 acre-feet. Due to this debt we are prohibited from storing any water in El Vado Reservoir, which means that after snow melt is finished, probably early in July, the river will dry up and our farmers will once more be faced with economic ruin. This condition can only be cured through the channelization of the swamp in particular and aided by other portions of the comprehensive plan for development for which you have fought so long and so hard.

This statement on physical condition in our area may sound absurd to people as far east as Washington; however, it is actual facts and is not the slightest enlargement on factual engineering data. I cannot too strongly impress on any members of the Board of the Budget, the President's executive board, or Congress, the actuality of our situation which is, this entire area is faced with economic ruin either from drought or flood and it is a sad situation when you are faced with both problems in the same year.

I wish at this time to thank you on behalf of the district and its board of directors for your efforts in our behalf in the past and assure you of our complete cooperation and sincere appreciation for your continued efforts in the Congress of the United States.

With kindest regards to you and your staff, we are

Sincerely yours,

MIDDLE RIO GRANDE CONSERVANCY DISTRICT,
HUBERT BALL, *Chief Engineer.*

STATEMENT BY MIDDLE RIO GRANDE CONSERVANCY DISTRICT

MIDDLE RIO GRANDE CONSERVANCY DISTRICT,
Albuquerque, N. Mex., February 21, 1952.

Hon. DENNIS CHAVEZ,
Chairman, Committee on Public Works,
Senate Office Building, Washington 25, D. C.:

I have your letter of February 19, 1952, referring to the need for a continuance of the channelization work now under way on the Rio Grande in the vicinity of San Marcial.

The Bureau of Reclamation emergency plan for reducing water losses in the Rio Grande involves construction of river-control works between the narrows of Elephant Butte Reservoir and a point near the southern boundary of the Bosque

del Apache Wildlife Refuge. This reach is about 35 miles long and the works to be constructed are, briefly, a conveyance channel parallelled by a levee which defines a floodway cleared of trees and brush.

Plans for the emergency construction provided for the first phase of the work to start in the reach of the river below San Marcial, with the second phase extending upstream to a heading structure in the Bosque del Apache Wildlife Refuge.

The total estimated cost of these works is $4,000,000. An amount of $1,463,000 was made available in fiscal year 1952. These funds were to have provided for starting two separate contracts for this work. The work was divided into two contracts in order to expedite completion of construction.

Estimated annual water losses in the area through which the channel is to be constructed are 143,000 acre-feet annually. If the entire channel is constructed as planned, it is estimated that annual losses would be reduced by 42,000 acre-feet.

If no additional construction funds are made available, only the first contract can be completed. This contract does not provide for the construction of a channel headworks, therefore, no flows could be diverted to the channel and all flows of the river would necessarily be conveyed through the 1,000-foot-wide floodway. Since much of the anticipated water savings would have been produced by conveying low river flows through the channel, estimated annual water savings will be reduced to 16,000 acre-feet.

Under the terms of the Rio Grande compact, the water debt of the Middle Valley is increasing at a rate of over 36,000 acre-feet annually. If the entire channel can be constructed, the water saved would be more than enough to reverse this trend and eventually repay the debt. If no additional funds are made available, the annual savings, although appreciable, will be inadequate for this purpose.

Water storage for the Rio Grande project centered around El Paso is at a historic low and water now in storage is insufficient to complete even the first irrigation. Reduction of river losses in the reach above Elephant Butte Reservoir is therefore extremely important to the Rio Grande project also.

Further, if additional construction funds are not made available, no provisions can be made for maintaining the completed work. Since all of the completed work is located in a part of the flood plain of the Rio Grande which is subject to inundation by high stages of Elephant Butte Reservoir, it is subject to damage by both river flows and backwater from the reservoir. Available funds are not sufficient to provide for the purchase of any maintenance equipment and it will not be possible to employ maintenance personnel. Therefore, it will be necessary to abandon the completed work. Without adequate maintenance these works will probably be destroyed in a relatively short period of time.

STATEMENT OF JOHN PATRICK MURPHY, EXECUTIVE SECRETARY, MIDDLE RIO GRANDE FLOOD CONTROL ASSOCIATION

VALUATION OF PROPERTY

Senator CHAVEZ. Our next witness is Mr. John Patrick Murphy.

Mr. MURPHY. Mr. Chairman, my name is John Patrick Murphy. I am the executive secretary of the Middle Rio Grande Flood Control Association.

Our association is made up of farmers, businessmen, housewives, teachers, with everybody united for this purpose up and down the valley. We have over 2,000 members.

The evidence here today has been quite conclusive. I do have a statement which I would like to submit for the record, and now touch on a few of the highlights.

The population of the valley is our most precious resource. Then comes our water and our land. We have, according to the 1950 Bureau of the Census figures, 350,000 people.

Senator CHAVEZ. You are speaking now of the population in the Rio Grande down to San Marcial?

Mr. MURPHY. From the Colorado line down to Elephant Butte.

The valuation placed on that property in the valley is $500 million.

Senator CHAVEZ. Is that within the conservancy district lines?

Mr. MURPHY. That is right. That figure has been worked out by the bureau of business research at the University of New Mexico.

I checked with the Indian Service before coming up here and they estimate that the population of the Indians is 6,000. These are Pueblo Indians exclusively who are agriculturalists. That is where they make their living. Their economy is agriculture.

Unless this project is completed they will lose their livelihood and they will become wards of the Government.

NATIONAL DEFENSE ASPECTS

I would like to touch just lightly on the natural defense aspects. I stress that because we have some extremely important military establishments in the valley. These are the Los Alamos atomic laboratories, the Sandia atomic laboratory, the Sandia Armed Forces special weapons project, the Kirtland Air Force Base, the Ordnance Research Division, the Ordnance Research Division experimental range, the Wingate Ordnance Depot, and the Alamogordo guided missiles project.

Now, if the river was to go out of its channel, all of these installations would be impaired because they depend entirely on the railroads in the valley; on the highways in the valley; on all of the utility facilities which are normal for all river towns.

SILT DEPOSITS IN RIVER BED

All of these facilities were built and constructed in the valley. Since that time the river bed has silted up and aggradated until it is 4 and 5 feet higher than the installations.

We are depending on a little sand levee for protection. Now, if that gives way, to take the example of the city of Albuquerque, we have some very tall buildings there which have their foundations on sand. If the water gets way down into the city and if it begins to mill around, we will have replicas of the Leaning Tower of Pisa with all of these tall buildings because the foundations will just slip out from under.

Now, the reclamation features of our comprehensive plan are very important, and just as important as the flood phases.

In our agricultural development there we are not adding anything to the so-called agricultural surpluses because everything that we produced is consumed in the valley. That is mostly alfalfa and small grains.

It is always notorious in this country that we jump in and try to do something after damage has been done. This is one project where we have all of the engineering recommendations; we have the authorization of Congress to do a job to prevent a flood and preserve the economy of the valley.

Let us do that before the flood occurs and let us not have to remedy the situation after the flood has occurred because you cannot bring back lost lives and lost water damage.

In conclusion, we thank you most sincerely for making this opportunity available to us so that we might come up here and tell you our story—a story that needs attention.

Senator CHAVEZ. Thank you, Mr. Murphy.

Your prepared statement will be included in the record at this point.

(The prepared statement referred to follows:)

STATEMENT OF JOHN PATRICK MURPHY

My name is John Patrick Murphy and I am executive secretary of the Middle Rio Grande Flood Control Association. I have been authorized by the board of directors of this association to appear on their behalf and present the material we have prepared.

First, with reference to the Middle Rio Grande Flood Control Association. This association is made up of a voluntary group of farmers, business and professional men, housewives, school teachers, and other persons who have united in this manner to support this approved comprehensive plan. Our membership numbers over 2,000.

Second, it should be noted that all affected interests of this project, are united in their endorsement and support of the comprehensive plan as worked out by the Corps of Army Engineers and the Bureau of Reclamation. Thus it is a joint undertaking by the two Federal agencies and has the complete approval of Texas, Colorado, and New Mexico, all of which are affected States.

Economics: The Middle Rio Grande Valley extends from the Colorado-New Mexico State line to the Elephant Butte Reservoir in southern New Mexico.

Population (the greatest resource in the valley) is estimated to be 350,000, based on the 1950 Bureau of the Census figures.

Valuation placed on the property in the flood plain area is $500 million

Land area aggregates 347,500 acres.

INDIANS

There are 6,000 Indians in the valley living in 9 pueblos: Santo Domingo, Isleta, San Felipe, San Juan, Sandia, Cochiti, Santa Clara, Santa Ana, and San Ildefonso.

Agriculture is the principal economy of these 6,000 Indians, who are now being seriously threatened, along with their valley neighbors. These Indians would directly benefit and be assured of a continuance of their long-established livelihood, with the proposed program of control of the floodwaters of the Rio Grande, and detention of the large quantities of silt now being transported by its water, and the rehabilitation of their drainage canals and irrigation systems.

NATIONAL DEFENSE

New Mexico is one of the most vital areas in the national-defense program, and we have recorded the official testimony rendered before the Senate Subcommittee on Public Works by Carroll L. Tyler, manager, Atomic Energy Commission, Los Alamos, N. Mex.; Col. S. V. Hasbrouck, Armed Forces special weapons project; Col. C. F. Dreyer, Headquarters, United States Air Force. These true statements are printed in our dramatized brief, which you have before you.

We stressed the national-defense angle of our project, because, extremely important defense establishments have been located in the valley, at and near Albuquerque. Some of these installations include: Los Alamos Atomic Laboratories, Sandia Atomic Laboratories, Sandia Armed Forces special-weapons project, Kirtland Air Force Base, Ordnance Research Division, Ordnance Research Division experimental range, Wingate Ordnance Depot, and Alamogordo guided missiles project.

If the river were to get out of its channel above Albuquerque it would unquestionably make inoperative, in whole or in part, all of the utilities such as telephone and telegraph, water supply, sewerage disposal, power and light plants, the railroads and highways, and very possibly the highway and railroad bridges, or at least their approaches. This would create a very chaotic situation in Albuquerque, at Kirtland Field, at Sandia Base Atomic Laboratories, and at Los Alamos Atomic Laboratory.

It is impossible to predict when a flood of this nature might occur, so I think it should be considered in the light of its effect on national defense, because a flood could very easily occur at a time of national emergency when it would be imperative for the security of the country that Sandia Base, Kirtland Field, and Los Alamos be capable of complete and uninterrupted operation. That these installations would be adversely affected is certain for they depend for their utilities,

communications, railroad service, fuel supplies, etc., on facilities which are located in the valley.

RECLAMATION

The reclamation features of the comprehensive plan are equally as meritorious as the flood-control features. The agricultural land in the valley is of the utmost economic importance to the valley and to its people. The comprehensive plan does not contemplate putting into cultivation a total acreage greater than is now in cultivation. The plan merely contemplates preserving the present total acreage and having water for its proper irrigation. The principal crop is alfalfa and a small amount of corn, beans, and similar crops are also grown. They do not add to the national agricultural surpluses for the crops raised in the valley are consumed almost 100 percent in the valley.

An even more important feature of the reclamation work proposed in the comprehensive plan is that it will make it possible for New Mexico to meet its obligations for supplying water to the Elephant Butte project and Texas under the middle Rio Grande compact.

This is not a "new project": For the past 3 years, the Bureau of Reclamation has presented justifications for funds with which to initiate construction on the various phases of our comprehensive plan, but each year the Bureau of the Budget disallows these specific requests—premised on the so-called national policy of not approving any new projects—and they have arbitrarily classified our comprehensive plan as a new start. This is very discouraging and frustrating.

The Congress in an act dated February 14, 1927, authorized as appropriation of $50,000 for work in conjunction with the Middle Rio Grande Conservancy District to determine the requirements for protection and rehabilitation of lands in the Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta Indian Pueblos.

This work was done in conjunction with work of the Middle Rio Grande Conservancy District and as a result of these studies a report was made to Congress on January 13, 1928, House Document 141, which outlined the proposals contained in the official plan of the Middle Rio Grande Conservancy District.

I would like to call your particular attention to one of the pertinent statements made at that time in House Document 141 (and I quote): "At San Marcial the river bed is rising at a rapid rate due to silt deposition. River improvement work will give temporary relief to this situation but silt retardation on tributary streams, especially the Rio Puerco, is required for a permanent solution of the problem. It is proposed to include such a program of silt retardation in the district plans."

Just 1 year later—1929—was the year of the San Marcial flood; and it should be of interest to note that less than a year after the foregoing report was made to Congress, this thriving town of over 1,500 inhabitants was completely wiped out of existence. Let us not forget that the history of other areas in the valley could be similar.

IN CONCLUSION

You are all sadly aware, I am sure, with the fact that, almost without exception, flood control in the United States has come after disastrous floods, rather than before. May I respectfully point out that it is possible, depending of course upon the vagaries of the weather, to save the Middle Rio Grande Valley from another disastrous flood by the prompt construction of the flood control features of the comprehensive plan. I think everyone will agree that this is not only desirable, but it is actually imperative, in view of the importance of the valley to national defense. The reclamation features are likewise important in that it will preserve the economy of the people in the valley.

On behalf of the Middle Rio Grande Flood Control Association, I join with the other witnesses in pleading for adequate appropriations, with which to expedite the completion of our project for flood control and reclamation, so as to assure the people in our valley the protection they must have, for the continued preservation of their lives, their homes, and of the enterprises from which they derive their livelihood.

Let's profit by our past disastrous experience—and do this meritorious job before the flood and not after the flood.

We are grateful for the opportunity to appear here today and plead our cause. We thank you.

Senator CHAVEZ. I want to make this statement before we conclude the hearings.

I am glad that Senator Hayden was able to attend even for a short while, because he understands the situation. We do not have to sell Senator Cordon on the idea.

Also the other members of the subcommittee who are from reclamation or Western States understand the problem of water, too.

Now, our problem is generally water, either too much or too little.

I feel that the committee will give the testimony that was adduced this morning the consideration that I know it merits. I am still hoping that eventually we will be able to put the Bureau of the Budget on the right track.

I want to thank all of you men who came in from New Mexico. Thank you very much.

Chairman McKellar. The committee will recess now, unless there are any other witnesses.

The committee will be in recess until 11 o'clock tomorrow morning.

(Whereupon at 1:30 p. m., Thursday, May 22, 1952, a recess was taken, the subcommittee to reconvene at 11 a. m., Friday, May 23, 1952.)